American MILK REVIEW

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AN URNER-BARRY PUBLICATION

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SWEDEN—SCENE OF THE WORLD DAIRY CONGRESS

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A Letter to the Editor from the Chief of the American Delegation

DR. O. E. REED

Mr. Norman Myrick
American Milk Review
92 Warren Street
New York, N. Y.

July 5, 1949

Dear Mr. Myrick:

The XIIth International Dairy Congress will be held under the patronage of H. R. H. the Crown Prince Gustaf Adolf of Sweden in Stockholm August 15-19, 1949.

This is the second time that the Swedish Government has organized the International Dairy Congress. The Fifth Congress was held in Stockholm June 28-July 1, 1911.

While the International Dairy Congress is organized by the Swedish Government, it is held under the auspices of the International Dairy Federation. Twenty-one countries are now affiliated with the Federation. While the United States has been invited to participate in all of the Congresses held in various countries through the years, this country has never affiliated with the Federation.

A World's Dairy Congress was held in the United States in 1923 and all countries were invited to participate.

The International Dairy Federation has had as its primary object the development of scientific and technical dairy interest. It has also fostered economic developments of the dairy industry.

The program of the Congress to be held in Sweden this year is scientific in nature and papers are presented by research men from all countries. There are six sections in the program set up as follows:

Section I. Milk production, hygiene and control.
Section II. Physics, chemistry and microbiology.
Section III. Dairy industrial technique.
Section IV. Economics and trade.
Section V. Organization of the dairy industry.
Section VI. Tropical dairying.

More than 40 scientists in the United States have prepared articles and reviews on the various subjects. These papers will be reviewed before the Congress and will be published in the proceedings of the Congress.

The Swedish Government has invited the United States Government to take part in this Congress and, accordingly, the State Department in cooperation with the Department of Agriculture, has appointed an official delegation to represent the United States.

In addition to the official delegates from the United States, about 50 individuals have signified their intention to attend the Congress this year.

After the official Congress sessions are held, the Swedish organization committee has arranged for several tours throughout Sweden not only for giving the delegates and visitors opportunity to see a part of the dairy industry, but to see other interesting places in that country.

Very truly yours,
O. E. Reed
Chief
Bureau of Dairy Industry
U. S. Department of Agriculture

THE UNBROKEN THREAD

IT IS DIFFICULT to estimate the quiet impact of the dairy industry on the course of history. Scarcely a people who have had their brief stay upon the world stage that have not sunk their roots into the things of the land and the increase of their herds.

There are the carvings from ancient Syria showing the process of milk handling in that distant time. There was Abraham who, according to the scriptures, entertained three strangers and "took butter and milk and the calf he had dressed and set it before them." There were the rugged Norse adventurers beating across the North Atlantic in open boats sustained for the most part on goat cheese. There were the tough mongol troopers storming across the high steppes of middle Asia with their bows of horn and their diet of curds.

Wherever one turns in the endless story of man's journey up the ladder of the centuries, one is never very far removed from the story of the dairy industry. The search for food has been a dominant force in the development of civilization. Domestic animals, particularly cattle, furnished men with meat and hides. Subsequently they became a source of power as well and finally a source of food in the form of milk that could be tapped every day. In many parts of the world cattle still are all-purpose animals serving their masters in the yoke, in the milk pail, and on the butcher's block. It is entirely possible that, even in this forty-ninth year of the twentieth century, the cow is more widely used in this manner than in the manner of the specialized dairy or beef animal of the highly developed agricultural nations.

The one startling fact that emerges from a study of the dairy industry's past and position in the present is the tremendous extent to which it embraces the peoples of the world. We have already mentioned the men of the Norwegian fjords, the inhabitants of the eastern Mediterranian, and the horsemen of Asia as users of dairy products. Today the practice of dairying has reached a new peak. On every continent and in nearly every nation, with the notable exception of China, men are striving to bring the dairy industry to a higher plane of development. Whether it be the milk of goats or buffaloes, of reindeer or cattle, the economic health that a strong dairy industry brings is a potent factor in the thinking of the world.

In this issue of the *American Milk Review*, we have attempted to assemble the pieces of the world dairy picture. The result is imperfect as any attempt to present such a tremendous epic of mankind must be. There are, however, many bits of information here, which, when taken together, draw in bold relief the swirling currents that perplex our twentieth century world.

From behind the Iron Curtain come the stories by George Agudov and Jeno Vegh on the dairy industry in Russia and Hungary. From the other side of the globe comes Edgar Bee's brilliant portrait of the solid, substantial dairyman who is such a powerful factor in the sturdy progress of the "land down under". Based on information secured from the Bombay Milk Commission is Hugh Robinson's tale of the fantastic conditions in a great Indian community and the splendid effort that is being made by Bombay authorities to bridge half a thousand years in half a decade. Germany, China, Turkey, Italy, France tell their story of war and the bitter aftermath of war as it is written in their version of our industry.

We selected August as the month in which to present this issue because it is during this month that the delegates to the Twelfth International Dairy Congress will assemble in Stockholm. Surely few events in recent years have given more substance to the international character of the dairy industry than has this meeting.

We are a little proud of this issue of our magazine. To be sure it will not tell you how to make a better bottle of milk or how to turn a fast buck. But it will give you a brief vision of the vast panorama of the industry of which you are a part. It will show that wherever men have made their homes whether in Africa or India, Australia or Iceland, the unbroken thread of the dairy industry is a vital segment in the pattern of civilization.

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In the Food and Agricultural Organization the United Nations Has Found —

A TEACHER FOR THE WORLD

FAO and Milk, three and four letter words, the second is familiar all over the world, the first is getting more popular from day to day. The two together are less known. But they will be known, and this joint use of the two words will be of recognized importance.

FAO Watches Supplies

Since the foundation of FAO, in 1943, this international organization, one of the most active agencies of the United Nations Organization, has always kept an eye on dairying and milk supply of underfed peoples. Its main activities in the field of research, statistics, surveys, always were coupled with all kinds of international cooperation, advice and education in favor of all the peoples of the world.

Before the war, most nations played a lone hand in the effort to produce the basic food materials of life. The struggle for food, which has been an eternal one since human beings have been on the earth, has always been carried on by the various nations alone and only in fragments, there was some sign of international collaboration. The International Institute of Agriculture in Rome contributed to its members a valuable source in the field of research and surveys, but it hasn't been adequate to the needs.

Since FAO has been called into life, the cooperation of agricultural experts and the exchange of their ideas and the results of their research work has been made systematically. So it is in the field of dairying, as well.

War Depleted Bovulation

After World War II, there were many obstacles to be overcome in the war-torn countries, especially in dairy farming and dairy industries. Cattle were decimated not only by occupying armies and consequences of battles, but as well as through the fact that in consequence of lack of control and veterinary services, diseases killed millions of cattle. There was also consequently a shortage of milk supply in many countries where babies starved and died due to lack of proper nourishment and sanitary milk. The first step to be taken by the FAO was to organize jointly with other international agencies and the UNRRA to supply sanitary milk to the hungry babies.

This kind of work has not been abandoned by the FAO even in the most recent times. One of the most important activities of the FAO in connection with milk is the carrying on of a milk equipment program jointly with the United Nations International Children's Emergency Fund. Ever since the beginning of the UNICEF in December 1946, that organization has operated in close cooperation with the FAO.

At present, the FAO and UNICEF are working closely together on the milk equipment program in Europe. The primary aim of this program is to increase the production, quality, conservation and distribution of indigenous milk supply in eleven UNICEF receiving countries in Europe participating in this particular phase of UNICEF's work in order that children and pregnant and nursing mothers may have a more adequate supply, free of charge, of this important food.

Building New Plants

UNICEF is providing for this purpose $2,000,000 a year to be spent on equipment for milk-drying plants and pasteurization equipment. The government of each receiving country is to provide as much of the money and equipment as it possibly can. The rest of the necessary amount to be provided by UNICEF, the $2,000,000 being distributed among eleven countries according to their need. It is planned that each country will have established at least one complete plant, the government supplying the buildings, labor, etc., and UNICEF supplying only those parts and equipment not now actually produced in the receiving country. The FAO has a purely technical and advisory part in this program. FAO has provided the services of three experts in the field of dairy production to aid in the survey planning and carrying out of the program. The eleven countries involved in the program are: Albania, Austria, Bulgaria, Czechoslovakia, France, Finland, Greece, Italy, Poland, Rumania, Yugoslavia.

A panel of dairy experts was set up to advise and plan the main points of the project. The members of this panel are: for UNICEF, D. R. Sabin, Chief Milk Conservation Project, UNICEF Headquarters; G. D. Turnbow, Consultant, U.S.A.; R. Forshell, Chief, Milk Conservation Project, European Headquarters, UNICEF; for FAO, Richard T. Allman, FAO Agriculture Division, Washington, D. C., and two specialists hired by FAO, H. D. Kay, Director, National Institute for Research in Dairy, Reading, England, and S. Wilcox, Consulting Engineer, United Kingdom.

This panel found that in most countries studied, indigenous milk supplies are still below prewar levels, however, there is an increase since the end of the war. Besides the shortage of dairy cows, another limiting factor is the shortage of concentrated feed for winter milk production; another is the absence of adequate milk handling, processing, and distributing facilities. The keeping hygienic quality of the milk supply in most countries studied is poor. In addition to these there is also a lack of adequate methods and equipment for pasteurization of milk that is available. Most countries seem anxious to replace worn out equipment and to extend modern pasteurization possibilities to more localities. According to a proposition of this panel, essential equipment for additional dehydration plants and additional pasteurization anl milk distribution equipment should be proved also. The Panel recommended the installation of complete units. All these will serve together to provide safe milk for children out of indigenous supplies by the UNICEF, the improvement of feeding babies in nderfed countries.

Sanitary Regulations Ignored

In the battle for food, directed by the FAO, a very significant item is that which will increase milk supply in Europe and other parts of the world. The breakdown of sanitary conditions during the war caused a spread of cattle diseases such as contagious abortion, foot and mouth, mastitis, and Bang's disease, as well as tuberculosis of cattle. All these are robbing the farmers of milk, and causing shortages in the food supplies. In the struggle against these diseases, FAO is playing a very successful role. In order to wipe out, for example, the contagious abortion, a successful campaign is being developed by introducing and making more popular the artificial insemination of cattle. Very significant progress has been made in this field in Italy. The results of FAO's work in this field are hard to measure, but indirectly, hundreds of good quality cows have been born resulting in thousands of gallons more milk for the people of Europe.

FAO veterinarians are actively working in Europe to control contagious abortion

and other animal diseases through the use of new vaccines. The effect of this work on the milk and meat production of Europe can best be seen on the small farms of Poland. This vaccine, developed by North American scientists, is now being manufactured in Poland. Many countries even so far away as China, have been watching these experiments. A gathering of international scientists in Warsaw last November studied the results of this new vaccine.

The most costly animal disease in the world is rinderpest which is widespread in large areas of Africa and Asia, especially in the Far East. This disease is killing at least two million animals a year. Suppose that two million cattle a year were to be killed from the United States herds, what a loss of milk and meat to the peoples of the United States it would be! The very existence of this disease is not only a threat to the farmer directly affected by the loss of probably his only animal, but it is also a threat to the health of cattle in the entire world. Rinderpest and foot and mouth disease exist side by side, in some countries, however, foot and mouth disease definitely takes a back place.

FAO in China and Africa

FAO has now set up new permanent outposts in Africa and China for the fight against rinderpest, the latter being recently removed to Thailand. An outstanding success in the control has already been achieved, and it is due very largely to a new vaccine which was developed as a war weapon during the last war by Canadian and American scientists. FAO arranged to convert this war weapon to peaceful uses, and its experts started developing the vaccine in China. Laboratories in Kenya and Cairo also experimented with avianized vaccine. This disease with the help of the FAO experts, has been almost entirely eradicated in Ethiopia at the present time.

In some areas, particularly in Thailand, where avianized vaccine has not been developed, another type of vaccine made by passing the rinderpest virus through rabbits—lapinized—has been successfully used. The weapons to control the rinderpest are now in the hands of the scientists, and FAO is making sure that they will be used.

A campaign was successfully effected against brucellosis in Norway. Brucellosis causes very heavy losses in countries of Europe, and so does mastitis. It is reckoned that Europe loses, as a result of the cattle disease, mastitis, five million metric tons of milk a year—enough to give over thirty million babies a pint of milk a day. Both diseases can be controlled now, and practically eradicated at a comparatively small cost. FAO's contribution to this result was of invaluable assistance.

New Foot and Mouth Disease

Another problem has appeared in East and South Africa, in the form of a new strain of foot and mouth disease. It is highly contagious and to date there is no vaccine to combat it. Small wonder then that no country has wanted to take the risk involved in setting up a laboratory to work with this virus, for fear that it will get out of hand. No single country wants to make the decision as to where such a laboratory or laboratories should be. All the countries interested have offered funds to finance research in the production of vaccines, and they realize the job had to be done on an international scale, and they have appealed to FAO for assistance.

Dr. Ian A. Galloway, head of the Foot and Mouth Disease Research Laboratory in Pirbright, England, has taken on the job, and is doing the work on the request of the FAO. His work will assist in the discussions which will be held immediately after the International Veterinary Congress to be held in London, August, 1949.

Foot and mouth disease heretofore has taken a greater toll in the Western Hemisphere than in other parts of the world, especially in Mexico.

FAO hopes to evolve a system of exchange of information among research laboratories which will dovetail the work and speed up research.

During the World War II there was very little exchange of information among veterinary services and laboratories in many parts of the world. Developments in the control of animal diseases had been made in some countries, and were unknown in others. At the request of some of its member Countries, FAO held a meeting of veterinarians in Warsaw, Poland, in 1948 to provide the opportunity and discuss the latest methods of animal disease control.

Develop Pasture Lands

Other efforts attempted by the FAO in the interest of the world's dairy farming and dairy industry are the developing of pasture lands, range improvement, production of better and more hay, increase of foodstuffs, soil erosion control, introduction of new varieties of plants, locust control all bearing directly or indirectly on the better production of milk and meat.

The teaching of modern agricultural methods, not only to farmers, but as well to agricultural experts in many countries is of very great value. This educational program involves such schools as for Soil Conservation, Food Preservation, Animal Disease Control.

In many countries, modern farm machinery is very scarce, the farmers do not have the money to buy them, and when they have, they cannot use this equipment to its capacity. FAO specialists have been organizing in such countries small groups of farmers to buy and use equipment cooperatively.

A book written by Demetrios A. Soulides, Dairy Manufacturing Specialist of the FAO, entitled, "Better Utilization of Milk". This book gives the results of an investigation of present practices of handling and processing milk in undeveloped areas and of types of production and marketing in these areas.

Another very important study booklet has been published this year by the FAO under the title of "Rinderpest Vaccines—Their Production and Use in the Field". This publication was arranged and edited by K. V. L. Kesteven, Veterinary Officer of the FAO. The intention of this publication is to make available to the countries of the world the latest available information on the production and uses of the recently developed vaccines.

Summary

A meeting of European specialists in dairy production and marketing will meet next August or September in Great Britain to review latest knowledge and most modern practices in this field, and to encourage improvement in practices.

Livestock feeding will be discussed in November, in Czechoslovakia by feeding specialists of Europe.

Livestock breeding in the tropics will be reviewed and new methods of developing livestock particularly cattle adapted to tropical and sub-tropical conditions will be the subject of discussions in Cairo in October.

In coordination with the International Veterinary Congress in August, in London, a meeting of veterinary specialists from all regions will attempt to coordinate research and plant control programs for foot and mouth disease.

Locust control administrators and specialists of Central America will discuss methods which would be effective in controlling locusts in the region and arrive at an international agreement for a unified program in September.

FAO representatives will attend many scientific congresses dealing with subjects effecting dairy industry. Such congresses will be the International Veterinary Congress, United Nations Scientific Conference on the Conservation and Utilization of Resources; International Conference of Plant Breeders; International Congress of Animal Production, sponsored by the French Government; the Twelfth International Dairy Congress.

DISI—A WORLD WIDE INFLUENCE

With a Constantly Growing Membership in Fifty Countries Dairy Industries Society International is an Instrument for a Better Industry

By **JENO VEGH**

SINCE the development of rapid communication and transportation there has ever been a desire in men for closer international cooperation. It was such a desire that initiated a movement in the United States in the early postwar years to organize a body for the more expeditious and further sound development of dairy enterprises throughout all parts of the world. The idea of a new, active international society was welcomed by distinguished and forward looking men of the dairy field in many lands.

To give a practical launching to an international organization, some already existing force of organizations was required. This was made available by Dairy Industries Supply Association, which during the war, received a steady volume of correspondence from herd owners, dairy processors, dairy educators, and dairy administrators in a score of countries seeking information and counsel that the long established American but internationally known association of dairy industrial suppliers and equippers was not always qualified to give. DISA undertook to provide some of the basic working facilities which DISI would need until the new and entirely different body could get out of swaddling clothes.

Thus Dairy Industries Society, International got its start at a time when in many parts of the world dairy activities were in a critical state. It has steadily grown, although it still is not altogether self-supporting. Without special campaigns or inducements it has won members in some 50 countries and the number continues to grow.

Men of great international responsibility and not identified with the dairy industries have acclaimed the new Society. Sir Herbert Broadley, deputy general director of the Food and Agriculture Organization of the United Nations, for instance, has characterized it as "animated by the desire to render a real service to the community, and not only to the community of one country, but to the communities of all lands."

In its own language DISI's purposes are to "advance dairy enterprise internationally by fostering more production and consumption, better technology and sanitation, improved processing and distribution, expanded trade and worldwide cooperation."

In a very few words it puts its underlying creed: "Milk is man's most perfect food. Dairying is a foremost creator of agricultural wealth. In any country a well developed dairy industry is a force for stability, prosperity and peace. The benefits of dairy enterprise are universal."

DISI constantly points out that it promotes worldwide advancement of *every* aspect of dairy activity; that it is not an organization made up by or working for any particularized interests within the dairy world. This is why its membership includes milk producers, dairy processors, dairy products distributors, dairy farm and dairy factory suppliers and equippers, government officers, scientists, educators, students, publishers, varied trade associations, technical societies, etc.

It must be made clear that when DISI speaks of fostering or advancing dairy enterprise it is speaking of activities that are stimulative and educational. It does not establish companies or get into business. It makes modest charges for some of its publications but in the slang use of the phrase it has nothing to sell.

It recognizes that in furthering its purposes it is constructively serving virtually everyone's interests in the dairy field. There is so much room for, and eager reaching for more milk throughout the world that those who produce it on the farm, those who process it into any of its forms, those who deal in dairy products in any manner or in any place, those who find an outlet for technological supporting products either on the dairy farm or in the dairy plant are bound to gain advantage in a broadened worldwide dairy activity.

DISI is systematically putting teamwork and vision into practical programs of tangible education so that dairy enterprise can grow soundly and widely and more rapidly wherever conditions can be made to support it.

It causes me no wonder that 200 outstanding men voluntarily serve on DSI's committees.

DISI's regular communications to its members contain very valuable information related to practical new developments in dairy husbandry and in the dairy industries, on dairy conditions in the various countries, on dairy control matters in different countries. Reviews of significant books and periodicals are provided. Supplements frequently carry more detailed information of conditions and events and opportunities in a particular country. Many of these condensed studies are of very important uses.

The Society has developed several instructive publications. These include short handbooks dealing with sanitation in dairy farming; farm cooling of milk; sanitation in dairy processing; separators and clarifiers; pasteurization; packaging and closures; and milk transportation.

Another important publication is a glossary of dairy and related terminology in Spanish and English, the most comprehensive effort of its sort ever undertaken and completed. Other bilingual glossaries are in the making.

The Society has pasteurization literature compiled bearing upon given areas. It has selected area compilations of milk sanitation laws and codes.

It is steadily and systematically compiling listings of principal herd owners, dairy processors, distributors, associations and other active dairy entities, country by country.

To me, with my international background, the work done by DISI's committees is impressive.

The Education Committee supervises a gathering of educational materials from various countries, which are used at Society headquarters for reference or, on occasion, distributed. A comprehensive bibliography of educational tools, including books, periodicals, motion picture films, slides, posters and other types of displays is being compiled. A subcommittee is surveying existing educational facilities for advanced training in dairy technology in all countries.

The Health Standards Committee is concerned with model codes and laws, and with quality standards for dairy products.

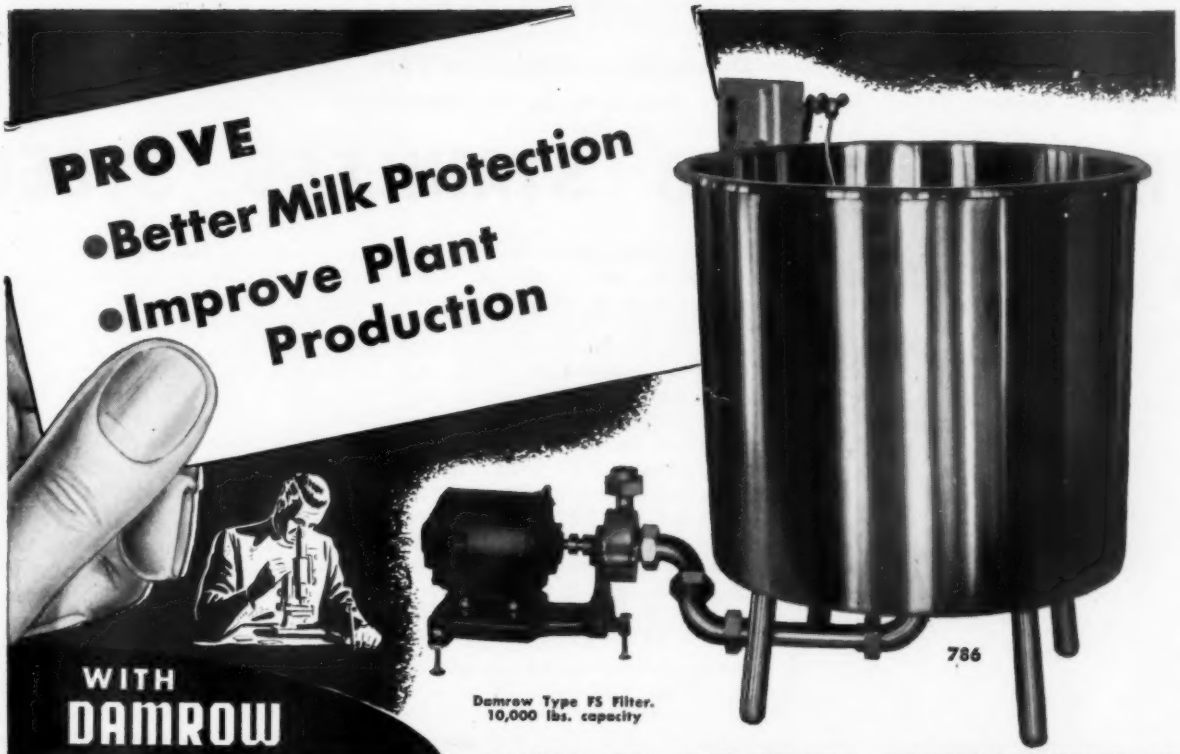
Technical Committees on Milk Production and on Dairy Processing guide the staff in its educational consultations and in attending to specific queries coming from Society members.

Committees on Dairy Economics and Dairy Industrial Management are standby panels of recognized experts.

(Please turn to Page 69)

PROVE

- Better Milk Protection
- Improve Plant Production



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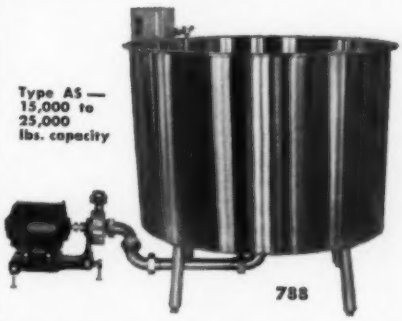

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DAMROW BROTHERS' COMPANY

DAMROW PERFORMANCE-ENGINEERED EQUIPMENT FOR THE DAIRY INDUSTRY

Many Men From Many Lands Have Developed the Equipment Upon Which the Modern Dairy Industry Has Travelled in Its Journey

FROM CLAY TO STAINLESS STEEL

TO THE HISTORIAN the dairy industry is a paradox. Its antecedents are lost in the mists of antiquity. References to dairying abound in the records of ancient Egypt and Syria. The Bible refers to the practice of dairying, perhaps the most famous passage speaks of a land "flowing with milk and honey". Herodotus, the great historian of the pre-Christion era, tells of the Tartars using mare's milk for butter making. Yet in spite of this distinguished lineage the dairy industry as we know it today has come into being within the lifetime of men now living.

The utilization of milk from domestic animals for human consumption is a practice older than recorded history. Why then, should the dairy industry as such be so recent a protagonist on the world stage? The answer lies in the development of knowledge and equipment. As stirring a tale as any of the great triumphs of mankind is this story of ideas gleaned from many lands spun together into the huge industry of today.

T. R. Pirtle in his "History of the Dairy Industry" says, "The making of butter and cheese on farms began to give way to factory manufacture and soon, during the period from 1860 to 1885, the 'factory system' was introduced throughout the world. This system was very economical in the manufacture of dairy products and it also removed much work from the farms. It made possible a great increase of products without an increase of labor. From that date, 1880, dairying is seen to make its greatest growth in quantity of prodcts made and exported."

For three centuries prior to this spectacular spurt, the basis of the new industry had been building. Cattle breeding had progressed to a remarkably high degree. In England, France, and The Netherlands many of our present day breeds of cattle were founded. Improved agricultural practices such as the rotation of crops and the use of fertilizer marked this period. The introduction of steam driven machinery that started England on her way to the fore as the leading manufacturing power of the 19th century was also a product of this time.

"Science found dairying almost a new field", says Pirtle. Almost two centuries elapsed between the time that Leeuwenhoek, the Dutchman, fussing around with his lenses and his curiosity, found the strange creatures called bacteria and the revolutionary discoveries of the Frenchman, Louis Pasteur. It was in 1857 before the Scientific Society at Lille, that Pasteur made the announcement that heating would postpone the souring of milk. One is tempted to imagine the bearded members of the learned gathering as galvanized into stirring action by the revelation. At the very least there should have been a flourish of trumpets. Presumably the Pasteur statement, loaded though it was with the very essence of human progress, was received with scholarly calm if not with outright scepticism.

Almost a quarter of a century sped on its way before a German by the name of Ahlborn put Pasteur's work to practical use in the form of a commercial pasteurizer. The Germans, with their flare for the scientific and its practical application, were apparently leaders in the manufacture of early dairy equipment. The first commercial pasteurizer used in the United States was installed by L. B. Halsey, then head of Sheffield Farms Company. He placed a German pasteurizer in the Company's Bloomville, New York plant in 1892. The Long Flow holding device which is now generally used with Short Time High Temperature Pasteurizers was invented by Harvey Feldmeier and Charles B. Dalzell of this country. They shipped the first one in 1909.

There you have the twisting course of an idea. Over a period of two centuries, from the discovery of a Dutch amateur to the laboratory of a French scientist to the workshop of a German engineer, the idea worked its way. From Ahlborn's shop in Hildesheim the practical expression of Pasteur's great discovery has spread to the four corners of the world.

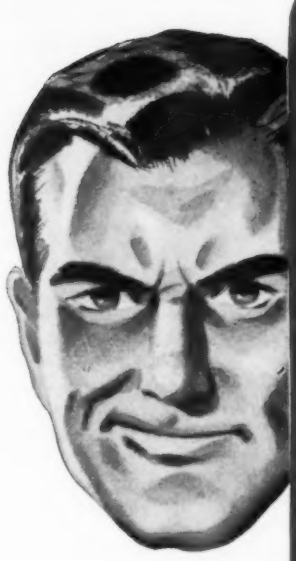
The application of centrifugal force to the separation of cream is another prime lesson for diplomats and dairymen alike. In this year of our century, when the Iron Curtain has closed down on a large part of Europe and the Atomic Bomb has ushered in the first terrifying restrictions on the free transfer of ideas in this country, the evolution of such a mundane instrument as a device for separating milk and cream assumes the proportions of a voice crying in the wilderness. In 1877 two Americans, Messers Thompson and Houston by name, applied for a patent covering the continuous separation of cream from milk by centrifugal force. The patent was issued April 5, 1881. At the same time the work of Dr. De Laval in Sweden was bearing fruit. 1878 is given as the official date for De Laval's invention. Application was made for an American patent a year later and the patent was granted in 1881, three months after Thompson and Houston received their patent.

A German by the name of Von Bechtolsheim brought the separator into the beginnings of its present high efficiency with the invention of the thin conical discs dividing the inner space of the separator bowl. The invention was adopted by Dr. De Laval and has become an accepted, even a vital part of the modern separator. The important fact to note in this story is that the invention of the separator, while without question the work of De Laval, was contributed to by men of other nations. Nowhere in this industry, or any other for that matter, excepting the production of ingredients for atomic bombs, do national boundaries serve as limits on the evolution of ideas.

The longer one delves into the origins of the equipment that make our present day industry possible the more one is struck by its international character. The so-called "American" cheese manufactured in this country was copied from the English Cheddar Cheese. Its manufacture, however, was not very scientific due to the varying strength of the Rennet used. It remained for a Dane, Christian Hansen, to develop an extract that solved the problem of uniformity. The homogenizer came from France as the name Manton-Gaulin suggests. The vacreator was the invention of a New Zealander, N. Lamont Murray, around 1934 and was first used in this country at the Oregon State College in 1938. The continuous process of making butter has several points of origin. Germany, Switzerland and the United States all worked out processes for continuous churning.

An outstanding innovation of fairly recent date has been the use of stainless steel. This metal is now universally used as the metal with which milk comes in contact. An alloy of iron and chromium was first used by an Englishman, Dr. Harry Brierly of Sheffield, England. This

(Please turn to Page 61)



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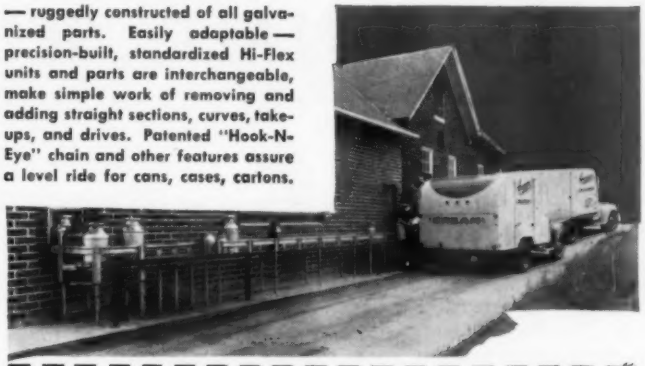

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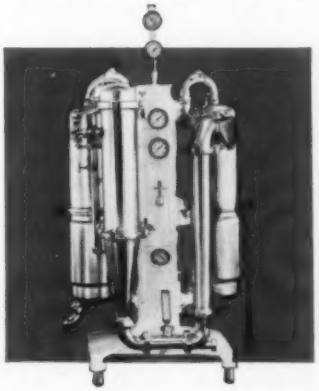

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EDITORIALLY SPEAKING . .

NO EMBARGO ON IDEAS

WE READ an editorial in one of our sister dairy publications the other day which disturbed us more than a little bit. Usually we see pretty much eye to eye with this journal and admire its excellent coverage of the week's news in the dairy industry. On this editorial, however, we must dissent and dissent vigorously. The piece said,

"ECA, in a recent press release, boasted that 'more than 200 requests from European countries for information on U. S. methods and techniques * * have been received * *.' Good old generous Uncle Sucker! We give away our money, we give away our goods, and now we are expected to give away our know-how. ECA may boast, but for us, we say nuts to 'em."

The entire history of mankind refutes this position. Whenever there has been progress among men it has been during a period when communications were good, when ideas could be easily and freely exchanged. Civilization flourished along the Nile in antiquity as a result of a number of factors but primarily because of a great river highway that afforded traffic in goods and thoughts. The birthplace of the mighty Roman Empire was at a point where trade routes intersected, where men from the distant corners of the known world met to exchange the products and the ideas of their respective cultures. The exuberant power of the Italian Renaissance, from which stemmed many of the ideas that permeate our present day society, sprang from the historic accident that found the Italian peninsula the funnel through which the armies of the crusaders must pass on their way to the Holy Land. Venice, Genoa, Florence became centers of trade and centers of thought. Here in the thriving bustling activity of five centuries ago were exported the ideas that furnished the life blood of modern civilization. Spain and Portugal in their brief presence as great powers on the world stage were both the seats of extensive trading operations with the inevitable export of ideas. It was under the banner of Spain that Chirstopher Columbus opened up the ocean pathways to the west. It was under the enlightened patronage of Prince Henry the Navigator that Vasco De Gamma and Bartholomew Diaz braved the stormy reaches of the southern seas that led to the fabulous wealth of the Indies.

When the avenues of trade left the rivers and centered around the Mediterranean the glory that was Egypt languished and died. When the trade routes through Italy shrivelled up the life went out of the nation.

Our dairy industry, by many accounts the largest industry in the world, is the product of ideas gathered from the ends of the earth. It was the invention of a Swede and the scientific investigations of a Frenchman that gave use the basis for our modern dairy industry. The ghosts of Louis Pasteur and Gustav De Laval preside over every milk plant in the United States. The vacreator is a New Zealand development and the continuous butter churning process is evolving from Swedish, Swiss, American, and Australian ideas. The very names of our cattle breeds, Guernsey, Jersey, Holstein, Ayrshire, Brown Swiss, underline the source of our strength.

As an even more graphic example of the dynamic role that the exchange of ideas plays in the course of history one has only to examine the genesis of the atomic bomb. There was Nils Bohr the Dane escaping from the Nazi steel in a dramatic flight by open boat. There was the Italian Fermi, and the Pole Madame Curie. There was the Englishman Chadwick, and the Hungarian Szilard. Notice that it was not Bohr or Fermi or Bush or Openheimer or Chadwick or Szilard who produced the bomb. Each one contributed something, no one man contributed everything. It was only when these men were able to talk, to exchange ideas, to pool their knowledge that the terrible power of the atom was released.

The pattern of our twentieth century civilization is confused. There are times when it is not difficult to believe that men have turned their heads away from freedom in a restless search for security. Currency controls, export and import controls, credit controls, and now a plea for an embargo on ideas, the very essence of liberty gnaw at our fundamental philosophy. The gravest of the dangers with which we are faced today is not the Russian bear, not an ominous national debt, not an economy stretched taut. The great danger is that the fear, the uncertainty that these challenges present will cause men to forget the things that made them great, will cause men to seek in restriction and regulation the strength that comes only through free thought and deed.

Should we send our ideas and knowledge abroad to the competitors who will thereby be in a better position to vie for the markets we need so sorely? It is a good question and a practical question. Perhaps it can best be answered by pointing out that the United States has no monopoly on ideas. It was only last week that the description of the work of a Danish scientist on Brucellosis reached our desk. Exchange is a two way street. Ideas go out and new ideas come in. But that is only part of the story. The stirring fact is that with the exchange comes progress. Where are the great markets for dairy products in the United States? Are they in the mountains of Kentucky, West Virginia, Tennessee, and Vermont? For a century and a half these areas have enjoyed about as air tight an embargo on ideas as it is possible to have. Here are areas of poor roads, poor communication, poor facilities for exchanging ideas. Are these the places where the product of thirty thousand milk plants find their outlet? Or are dairy products sold in the cities and towns where fine highways, good schools, newspapers, magazines, public meetings, and all the myriad devices for exchanging ideas are in operation?

We do not argue that the solution to the problem lies in unrestricted free trade, in indiscriminate baring of trade secrets, or the relaxing of the security necessary to the welfare of the nation. What we do argue is that the basic policies that govern the course which an industry or a nation is to take must be considered in the light of the fundamental truth that in the free exchange of ideas is the genesis of progress. Five thousand years of recorded history stand to refute the flippant folly expressed so heedlessly in the words, "ECA may boast, but for us, we say nuts to 'em."

XUM

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MORNING
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N. C.

IT'S

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GOOD MORNING
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THE INTERNATIONAL DAIRY CONGRESS

In Eleven Meetings Since 1903 the Dairy Industry Proved Its World Character — Now, After the Second Great War of the Century, Dairymen Again Set Out to Improve the Industry They Serve

By **JENO VEGH**

WHAT is the XIIth International Dairy Congress, and what may the dairy industry of the world expect of it?

As a member of the previous, the XIth International Dairy Congress held in Berlin, in 1937 I feel somewhat qualified to answer both of these questions.

The dairy industry all over the world is faced with various problems, many of these problems are similar, many of them different. All these problems which have been dealt with in the previous World's Dairy Congresses and some of which have been solved, should be of concern to all countries; and it is the task of the Stockholm International Dairy Congress to bring this about.

The idea to unite dairymen of the various countries arose in the year 1874 when the German Dairy Association was founded in Bremen, however, it was premature. The realization of the idea of an international dairy organization was developed only in the beginning of the twentieth century. In 1902 the Belgian National Dairy Association took the initiative by convening in 1903 a World's Dairy Congress at Brussels. Germany, Argentina, Austria, Netherlands, France and Switzerland were the first to establish their national committees. At this first World's Dairy Congress held in September 1903 in Brussels a proposal to organize an International Dairy Federation was unanimously adopted. The following congresses were held: in Paris, 1905; The Hague, 1907; Budapest, 1909; Stockholm, 1911; Bern, 1914; Paris, 1926; London, 1928; Copenhagen, 1931; Rome and Milano, 1934; Berlin, 1937. It is remarkable that none of the dairy congresses was held outside of Europe.

At the first International Dairy Congress in Brussels 16 countries were represented with 700 participants, and 57 reports were submitted to discussion, at the eleventh Congress in Berlin the number of countries was 53, represented by 3,638 participants and 413 reports were discussed during the meetings. The printed publications including the reports and papers discussed by the International Dairy Congresses form quite a library, a real Dairy Encyclopedia. The Work achieved by the eleven previous International Dairy Congresses is evidence for the fact that Milk is not only a food of great nutritive value, but that it is also a great employer and last, an important promoter of sciences. Through these Congresses it has been always emphasized what great importance has the milk in world economy.

Since the very first, the International Dairy Congresses were always among the most significant ones of all agricultural international congresses. It is not only because the hygiene of milk and dairy products is their final aim to be achieved and ameliorated through technical and scientific collaboration of the world's dairy experts, but also because the subject to be dealt with at these congresses is one of the most important foods. milk. It certainly is of great importance to provide our children, invalids, old people, in fact all classes of population with healthy and good milk and dairy products of high quality.

The most important and well known task of the International Dairy Federation lies in the organization of the International Dairy Congresses to discuss dairy problems. These are held successively in the various countries affiliated to the International Dairy Federation. Presently, 21 countries are affiliated to the Federation through their respective National Committees. The United States is not among those affiliated. However, a formal delegation and a number of other participants will be in Stockholm representing the Five-billion-dollar dairy industry of the United States. At the Twelfth International Dairy Congress, in Stockholm, Sweden, a ten-person delegation recommended by Secretary of Agriculture Charles F. Brannan, and with the approval of the State Department, besides others as observers from the U. S., will represent the World's biggest dairy industrial Nation.

The U. S. delegation will be headed by O. E. Reed, chief of the Bureau of Dairy Industry, U.S.D.A., as chairman of the delegation; Don S. Anderson, Production and Marketing Administration, U.S.D.A.; A. W. Farral, Michigan State College; G. E. Holm, head of Division of Dairy Research Laboratories, U.S.D.A.; Sherman E. Johnson, Bureau of Agricultural Economics, U. S. D. A.; W. E. Krauss, Ohio Agricultural Experiment Station; Mrs. Ethel A. Martin, National Dairy Council; H. H. Sommer, University of Wisconsin; Leland Spencer, Cornell University; and G. M. Trout, Michigan State College. Eric Englund, agricultural attache at the American Embassy in Stockholm, is secretary of the delegation. Those who will attend as observers are: Paul Reinhold, Jacksonville, Fla.; Arthur Kerckhoff, St. Louis; A. C. Baltzer, Michigan State College; O. F. Hunziker, La Grange, Ill.; and Robert Rosenbaum, Philadelphia, Pa. As General Reporters and reporters will act at the Congress O.E. Reed, A.W. Farrall, G. E. Holm, Mrs. Ethel A. Martin, H. H. Sommer, Leland Spencer and G. M. Trout.

Forty scientific papers dealing with the research and the development of the dairy industry in the United States will be presented, and ultimately will be published in the permanent record of the International Dairy Congress. Some of the American papers will present new developments and results of research of great importance to the assembled dairy experts of the entire world.

Let us see now what the answer should be to my second question, viz. what may the dairy industry of the world expect of the XIIth International Dairy Congress?

It expects first of all that men of science and practical dairying will find an answer, if possible, a satisfactory answer to the 36 problems concerning all branches and viewpoints of the dairy industry. These problems will be discussed in the scientific papers presented by delegates coming from various countries, and in the sessions of six sections of the Congress. The main subjects are: milk production, hygiene, and control; physics, chemistry, and microbiology; dairy industrial techniques, as processing, engineering, building; economics, trade, standardization; organization of the dairy industry; and tropical dairy industry.

Finally, it is expected that the benefit resulting from the personal contact between qualified men of goodwill may further the dairy industry of the world and will bring about a mutual understanding among the nations.

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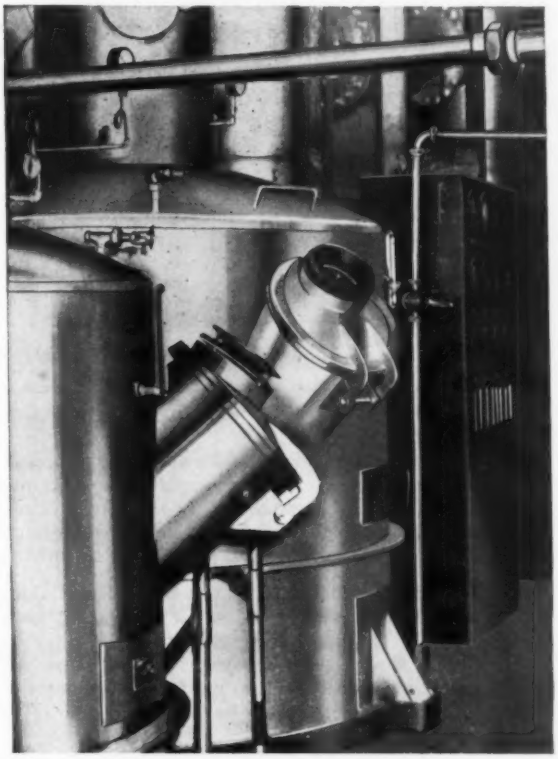

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Buflovak Milk Dryers profitably dry skimmilk, whole milk and sweet and sour buttermilk with equal success. The incorporation of many exclusive features enable producers to increase profits through top product quality, low production cost and large capacity.

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MARCEL FORTIER

Portrait of a Dairyman

SCARCELY had the salt stained canvas of the Pinta and Santa Maria been furled in the home ports of Spain than fishermen from Brittany were filling their holds with cod from the Grand Banks. They were the first of a rugged breed who planted the flags and the culture of France along the rocky bluffs of the St. Lawrence. From the Gulf of Mexico to the Gaspe the missionaries and the adventurers, the courier du bois and the grand seingeurs left their names and their mark. In the city of Levis, Province of Quebec, the restless gallic energy of Frontenac and Montcalm finds its modern counter-part in Marcel Fortier, owner-boss of the million dollar La Laterie Fortier Ltee. and an able participant in the affairs of Quebec's dairy industry.

The Fortier business was established thirty years ago by Laval-Edourd Fortier, father of the present owner. Like so many of the gallant stories that come out of the dairy industry, La Laterie Fortier started small and grew to size. A little over a hundred quarts of milk a day was the volume in 1919. Equipment was meager and the entire plant was located on the first floor of a private dwelling. The elder Fortier looked to the future and saw the value in a brand name. He began the manufacture of an ice cream to which he gave the name of "Royal".

Growth was rapid. By 1924 the business outgrew the first floor quarters and expanded to the second floor. Six years later a new annex was added to the building. The Depression cast its blight over the business from 1930 to 1934. Ship building, a major industry in Levis, came to a stand-still and the emaciated payroll hit the dairy business where it hurts. By 1937 the economy began to recover from its slump. It was during this year that Marcel Fortier bought out his father. The upward climb was resumed.

A program of new buildings and new equipment was begun that was completed in 1944. Today the firm employes 82 men. There are sixteen delivery wagons for the milk and twelve trucks for distributing the famous "Royall" ice cream. Products are distributed through eleven counties in Quebec.

As one looks at the fine modern plant in Levis it is difficult to separate the man Fortier from the business Fortier; each is so much a part of the other. Marcel Fortier has been many things, things as far removed from the dairy industry as a funeral director and a sawmill manager. But these forays into other fields were merely the preliminaries to the building of a dairyman. Since 1934 Mr. Fortier has been a dairyman and a mighty good one. He is President of the Junior Chamber of Commerce and member of the Lions Club and the Knights of Columbus. He is a director of the Province of Quebec Milk Distributors Association and of the Ice Cream Manufacturers Association. In addition to these activities he is a member of the Joint-Committee for the Milk Distribution Industry, Quebec City.

La Laterie Fortier is a big operation and it bears the hallmark of an able man.

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finest Milk Bottles by THATCHER GLASS

Year after year, ever since 1884 when Dr. Hervey D. Thatcher invented the first glass milk bottle, the name Thatcher has signified the very best glass milk bottles. A continuous parade of improvements in equipment, manufacturing methods, and laboratory tests has been developed by Thatcher to produce stronger and better glass milk bottles.

Today, Thatcher has over $15,000,000 worth of improved glass-making facilities to serve the dairy industry . . . the world's most modern glass furnaces . . . the most efficient automatic bottle making machines . . . finest precision temperature controls . . . latest scientific testing equipment—all devoted to producing more and better glass milk bottles at lowest cost. That is why Thatcher milk bottles are tougher, more uniform, better designed, and give more round trips.

Whatever type milk bottle is best for your plant, Thatcher engineers and facilities are at your service—backed by more than 65 years of complete experience in milk bottle manufacturing. The finest and most economical glass containers for your milk plant are made by Thatcher.

THATCHER GLASS
MANUFACTURING COMPANY, INC.
Elmira, N. Y.

Milk

Here at Squires Gate Airfield, Blackpool, England, a Lancashire plane loads up with some of the 50,000 gallons of milk that is flown daily to Northern Ireland across the Irish Sea.

FLIES THE IRISH SEA

By **H. G. ALEXANDER**

ON AUGUST 31, 1948, the "Milk Air Lift" across the Irish Sea was inaugurated when the first aircraft flew from Nutts Corner airfield in Belfast, Northern Ireland to Blackpool and Liverpool on the coast of Lancashire, England, fully loaded with ten-gallon churns of milk for the people of Britain.

This unique "Milk Lift" was carried out for two months. It did not always go according to plan. Low-lying clouds sometimes delayed the aircraft, and in addition some machines had to be diverted at the time to the Berlin air lift. Despite these obstacles 1,755 flights took place, which made it the largest air charter operation ever carried out in the British Isles.

More than 1,400,000 gallons of milk were flown from Northern Ireland to Britain; on the basis of the present British milk ration this amount would supply 550,000 people during the two months. An average of 24,000 gallons of milk were transported daily across the sea by air, and on the best day this figure rose to 42,000 gallons.

Before World War II Britain produced almost enough milk for her needs. During the war milk consumption in Britain increased. And in the post-war years consumption has not diminished. In 1939 an average of 71,000,000 gallons of fresh milk was consumed every month in Britain. By 1947, the monthly average consumption had risen to 106,000,000, while in May 1948, when an unusually good yield of milk was obtained, the average monthly consumption amounted to 130,000,000.

Furthermore, during the past few years, supplies of milk at reduced prices or free of charge have been allocated to schools and to young children. This amounted last year to one-fifth of Britain total milk consumption. It is, therefore, not surprising that social welfare experts from overseas have commented most favorably on the health of Britain's children, who today are physically better developed than children in the pre-war years.

An Answer to the Weather

In 1947 it became difficult to maintain the milk ration. Heavy floods occurred during March of that year, and in the summer months there was a drought. But these unfavorable weather conditions only applied to Britain and not to Northern Ireland, where milk supplies are so good that milk is not rationed as it is in the United Kingdom. Due to to the strenuous efforts of the authorities and the farmers who strove with remarkable success to increase agricultural production all over the United Kingdom, and by means of a well-devised price policy, the production of milk has continued to increase, particularly during the winter months when milk is in short supply. In Northern Ireland the output of milk was almost doubled. Since 1940 the surplus milk from Northern Ireland, though small when compared with the output of Britain, has proved a useful addition to Scotland, which has received regular winter supplies of milk from Northern Ireland.

While transport over short sea routes such as Northern Ireland to Scotland is pretty safe for delivery of fresh milk in winter, the supply by boat of milk from Northern Ireland to the North of England would have presented greater problems. Two fast boats with special equipment would have been required for daily deliveries. In 1947, the Ministry of Food in London tried out a small experiment

(Please turn to Page 60)

There's more money in chocolate-flavored dairy drinks made the easy Kraft way!

DELICIOUS FLAVOR, UNIFORM COLOR, FROM TOP TO BOTTOM

ECONOMICAL NEW POWDER CONTAINS A CARRAGEENIN-BASED STABILIZER

It will not "settle out"!

- ***FINER FLAVOR*** . . . a deep-down delicious "chocolaty" taste that you'll find ideal as a base for your formula. Kraft Stabilized Chocolate-Flavored Powder is a superb blend of top-grade, finely-ground cocoa and sucrose . . . brought to flavor perfection by a dash of salt and vanillin.
- ***LASTING SUSPENSION*** . . . this finer Kraft product contains a carrageenin-based stabilizer. *It will not "settle out"!* Color distribution is even, uniform. There are no color layers or "marbling" to destroy eye appeal.
- ***LOW VISCOSITY*** . . . drinks made with Kraft Powder have nearly the same viscosity as fluid milk! They pour out smoothly, leave on the tongue no filmy, sweetish after-taste to destroy the appetite for "seconds."
- ***EASY TO USE*** . . . no mess, no bother. No sticky syrup to scrape from the sides of a jug or tin. You can get the last spoonful of powder from its container. Quickly and easily soluble.
- ***ECONOMICAL*** . . . the price is amazingly low. Convenience and ease in handling save time and money in manufacturing. Always uniform, Kraft Stabilized Chocolate-Flavored Powder never fails, when properly used, to produce a delightful, fast-selling chocolate-flavored drink.

Find out more about this amazing product. Call or write the Kraft branch in your area today. Once you try it, you'll agree that Kraft Stabilized Chocolate-Flavored Powder makes a better dairy drink . . . easier. Kraft Foods Company, Department AM-6, 500 Peshtigo Court, Chicago 90, Illinois. Branches in all principal cities.

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POWDER

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saves time and money___ here!

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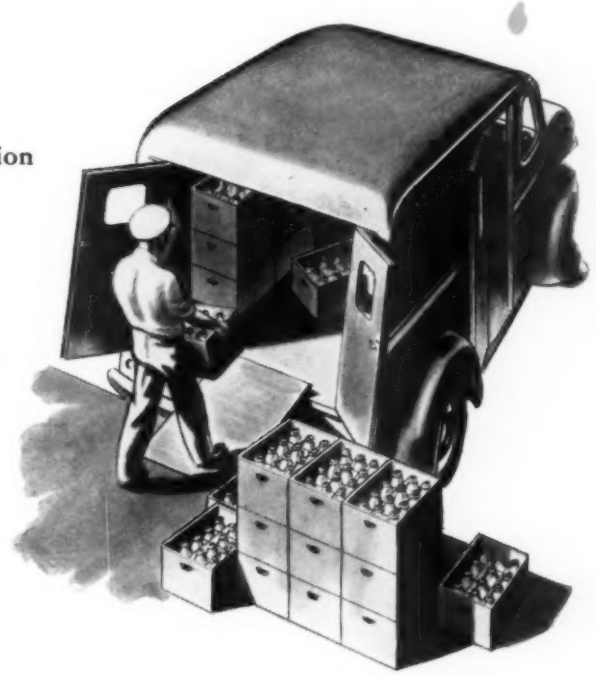
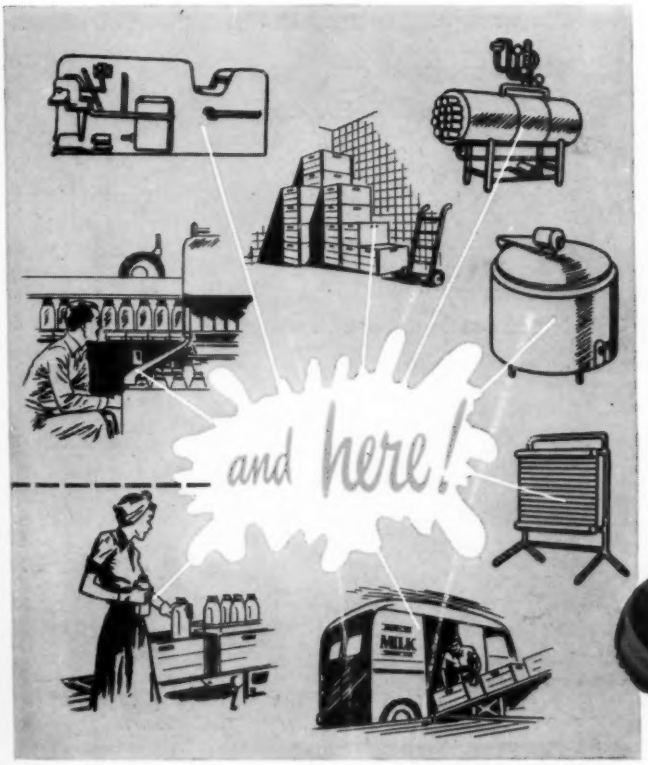
your trucks at lower cost!

of an hour or more per day. But savings in time do not end at the capper. With faster operation on the bottling line, attendant operations go faster, too. Time is saved in pasteurizing, bottle washing, cold room, loading, etc. All these savings in time add up to a big cut in total operating costs. You put your bottled milk on your trucks at lower cost per case.



Dacro Division Baltimore 3, Md.



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Saves on cap cost, too!

Because of its smaller size, the Dacro P-38 Cap takes less material to make and sells at a lower price. It saves money on caps every day you operate.

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EASY-TO-OPEN ALUMINUM

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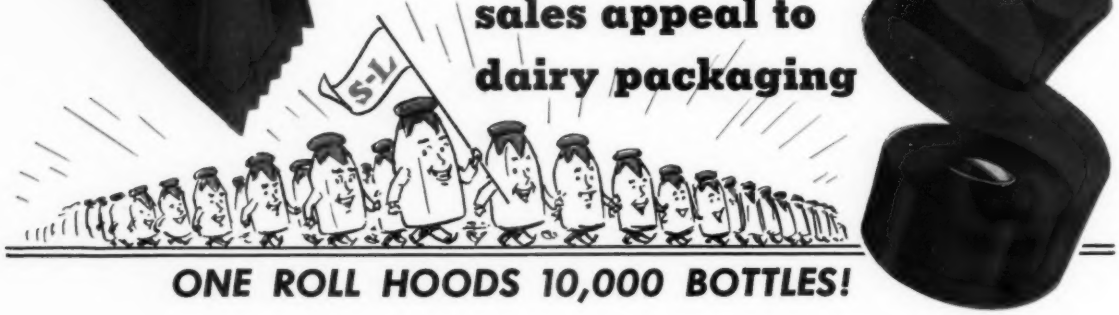
Smith-Lee CELLOPHANE HOODS

...add colorful sales appeal to dairy packaging



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RUSSIA

In Spite of Great Natural Potentialities the Soviet Government Has Failed to Make the Dairy Industry Tick

By **GEORGE AGUDOV**

WHEN A SMALL milk truck drives up to the door of my house in a small American community and leaves for me cool, fresh milk in a sealed bottle with cream floating on top in a special bulge in the bottle, I drink it with great pleasure. The pleasure is soured only by memories of the recent past when I stood with a kettle in my hand literally several hours in a queue in one of the Central cities of the Soviet Union, in order to get some milk for a sick friend. The milk I got in a state milk store came from an old battered milk can, dipped out with a rusty half-liter dipper. I carried it home as quickly as I could fearing that it would sour before I arrived.

Why this contrast?

The significant differences between the economic systems and structure of the Soviet Union and other countries, countries like the USA, effect to a marked degree the structure and development of the agricultural economy of the country and specifically, its dairy industry.

The principal difference between the Soviet dairy industry and its foreign counterparts is the fact that the Soviet State owns, controls and operates, finances, plans and administers most of the milk production of the country. The State owns and controls the cows, the farms, the supplies of fodder, the apparatus for distribution of milk and its manufacture into butter and cheese. The State determines the prices paid for the milk by the public, and also the price received by the producer. The State plans the quantity of milk which each district and each farm must deliver, and punishes those who fail to fulfill these plans.

The country's cows are divided into three groups:

First: Cattle in State Farms.

Second: Cows in Collective Farms, or Kolkhoses.

George Agudov is a Russian who recently arrived in this country. He grew up in Soviet Russia and writes with the knowledge of first hand experience. He is an agricultural engineer by training who chose exile to life under the mailed fist of the hammer and sickle. During the war he was a major in the Russian army. He was captured by the Germans and captured again by the Allied Forces. In this gripping tale of the dairy industry in his native land he has lifted the iron curtain in a manner that American dairymen can understand.

Third: Cows owned by farmers and others privately. (Restricted by law to one cow or at most two cows per family).

The first two groups comprise the majority of the country's cows.

The State farms deliver all their milk to the State distributing trusts and creameries. The Kolkhoses are obliged to deliver specific average amounts of milk to the State determined in proportion to the arable land at the disposal of each farm. Each Kolkhoz president is obliged to secure and keep enough milk cows to furnish and fulfill the quota.

The individual cow owners are obliged to supply the State a definite yearly quantity of milk per year which ranges from 75% to 85% of milk they produce.

There are no private firms, trusts, stores or other organizations which buy milk from the Kolkhoses or from private owners and retail it to the public.

Kolkhoses and private owners may and do sell milk which they may get over and above their state norms, to Consumers Cooperatives under State control, or on free markets directly to the consumer.

The State maintains a network of rather primitive receiving points which receive milk from the Kolkhoses and individual owners. They take both raw milk and separated cream. Such points measure butterfat content, weigh and handle the milk, and keep track of the monies due to the producers. They also keep track of the producers fulfillment of their norms. These points usually separate the milk received, put the cream into ordinary metal cans, and send it in ordinary trucks or railroad cars to central creameries, or to cities for sale to bakeries, hospitals and the general public.

Only those receiving points near large cities send whole milk which is sold by state stores to the public.

Only a few receiving points and some distribution centers in large cities pasteurize their milk. Few receiving points have refrigeration facilities, while refrigerated trucks and freight cars are almost unknown in the Soviet Union. Delivery of milk to the consumer is thus a major problem in that immense area, a problem which cannot be solved in the near future.

The State has attempted to overcome this problem by the so-called zonal subdivision of the country's cows. This plan represents an attempt to create, over a period of years, dairy farms around large cities for the delivery of whole milk. A second group of dairy farms deeper in the country will produce milk for butter and cheese. Whether this plan will succeed only the future will tell.

The city population of the Soviet Union consumes a small quantity of milk, because of these transport difficulties. Before the Second World War, the average annual production of milk per milking cow ran from 1,100 to 1,200 kilo-

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Squatting on their haunches 3 milkers scrub their milk pails with grit picked up from the roadway. To rinse the pails the boys dip them in the trough which doubles as drinking and washing water for the cow.

The daily toll of dead calves makes a gruesome sight. $9,000,000 annually is the tariff for replacing cows. Reduction of this expenditure is one of the primary aims of the new Bombay milk colony.

INDIA

A Bright New Milk Colony Is Helping to Wipe Out the Appalling Stain That Has Colored the Production of Milk in Bombay

By **HUGH ROBINSON**

TWO CENTURIES of progress crammed into a four year period is the aim of health authorities in India's fabulous city of Bombay. Faced with an inadequate milk supply produced under conditions that can only be described as sinister the Bombay Milk Commission has proposed and is executing a plan that will take the city's precious milk supply out of the middle ages and place it on a par with the industry in other nations.

Bombay is a city of close to a million and a half people. Its milk is supplied from filthy, crowded herds stabled in the city. The milk, which is practically without exception watered by the producer, sells for one rupee or something more than 30 cents a quart. The average consumption of milk per capita in the city is 3 ounces a day. Against this grim background the city authorities have proposed, through the Bombay Milk Commission, to establish a series of milk colonies on the outskirts of the city. These colonies will provide adequate space for the cattle, sanitary conditions for the production of milk, and modern dairy plants equipped with up to date machinery.

Present Conditions Are Absurd

Conditions under which milk was and still is produced in Bombay are fantastic. The milking animals, which are mostly buffaloes, are housed in open sheds in the heart of the city. Herdsmen and their families share the sheds with the cattle. The human living quarters are established on platforms suspended from the shed roof. Usual concentration, reminiscent of the 40 and 8 of World War I days, is a thousand cattle and a hundred men on one acre of land. So great is the congestion that more than 50,000 calves die yearly because there is no place in which to rear them. Mortality among adult animals is also extremely high. Cattle valued at more than $9,000,000 are imported each year to replace those that fall victim to the vicious system. There are no pastures, no exercise areas, nothing except dirt and heat and death and lethal liquid sold to the citizenry under the absurd label of fresh milk.

Sanitation seems to be a thing unheard of. Dead animals are left where they fall until time is found to remove them. Ofttimes this is 3 or 4 days. The carcasses have begun to decompose and are infested with insects yet four or five feet away a cow is being milked. The open-sided milking sheds are invariably surrounded by a 6 months to 2 years accumulation of manure. Operating on the theory that production is increased by the presence of a calf near the cow, dead calves, stuffed with straw, are placed or held near the cow during milking. After milking, the yield of each cow is placed in a common, open, unrefrigerated container at one end of the shed. If there are many cows to be milked the container sits for two or three hours before the milk is collected. Another charming practice is that of scrubbing the milk pails with grit and dirt from the nearest road and then rinsing them in water that has already been used once for washing the cattle.

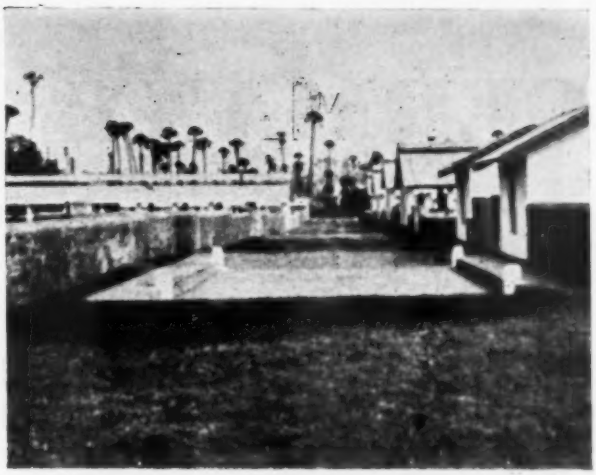
Is it no wonder that the average daily production per cow is less than 10 pounds and that the lactation period rarely exceeds 240 days?

Distribution is not much better. The methods used in Bombay date back to the pre-Thatcher days of ladels and open buckets. The Bombay "routeman" slops along the street under a load of two large vessels of milk, pausing here and there to measure out a seer or two for his customers. Yet, in spite of these hideous conditions of production and distribution, he usually has more customers than he has milk.

New Program Offers Hope

This situation finally became so intolerable to health and welfare authorities in Bombay that in 1945 they devised

In this artist's conception of how the new milk colony will look it is easy to see that the accent on planning ahead has been heavy. The area in the foreground shows one unit. In background is veterinary hospital.



A close-up of one of the farm's thirty units. Neatness and sanitation have been given first place in the thinking of the designers. On the left are the calf pens while at the right are some of the various storage sheds.

the "Bombay Milk Scheme". The "Scheme" is a drastic and sweeping plan for ridding the city of its poor milk and providing in its stead an adequate supply of clean, healthful food.

The basis of the scheme is the removal of all cattle from the overcrowded city and place them in a completely self-sustained milk colony somewhere near the outskirts of Bombay.

To this end the Bombay government has purchased nearly 3,000 acres of land 20 miles north of the city. Thirty modern dairy farms will be constructed on this land and sold to the cattle owners from the city at a reasonable charge. The date of this purchase was May, 1946. After many formalities construction was begun in the Spring of 1947 and as of now 65% of the work has been completed. The remainder is scheduled to be finished by March, 1950.

The colony, known officially as the "Are Milk Colony" will, when finished, house 15,000 milking cows. The central dairy, now nearly completed will be capable of pasteurizing 40,000 lb. an hour and it is planned that all milk leaving the colony will be pasteurized. Ample provision is being made for the 2,500 people who are expected to work and live on the colony.

The original land upon which the farms are being built was mostly jungle, necessitating building many roads and clearing over a thousand acres for grazing land. This was one of the prime factors in delaying a swifter completion of the colony.

Standard Dairy Units Established

As already stated, the colony will consist of 30 farms averaging approximately 300 milking animals each. The standard dairy farm unit consists of 4 milking sheds housing 74 milking animals per shed. Twelve calf pens for unweaned calves are attached to the milking sheds. A set of 6 rooms is provided to be used for recording the milk, storing utensils, farm laboratory and farm office, etc. Two young and drystock sheds able to accommodate 84 animals are included. Individual calving boxes and lines for 20 animals, pens and exercise yards for bulls and two night shelters, with certain covered accommodation, round out the units. A grain godown for holding two months stock, 1 chaffing shed for chaffing of fodder to prevent wastage and to increase its palatability, 1 covered hay godown to hold about 2 months requirements insure adequate feed. An implement and bullock cart shed, 1 bullock shed, garages for 2 trucks and a mechanic's quarter, 30 servants and milker's quarters, 3 supervisor's quarters, a cottage for the manager and the necessary number of latrines, with septic tanks, are other features incorporated in the farm. Footbaths are also provided at vulnerable points so that cattle, coming in and going out of the unit, must walk through disinfectants. These buildings comprise one unit and will hold 304 milk animals with an equal number of unweaned calves, 84 dry animals and young stock, 25 animals due to calve, 5 bulls and 12 bullocks, or a total of 718 animals. Some 40 to 60 acres of land will be attached to each unit, a part of which will be used for grazing and exercise, a part for monsoon cultivation and a part will be developed for irrigated cultivation throughout the year.

Electrification of the colony is also planned so that the most modern methods of milking, testing and pasteurization may be employed. At present this electricity is being drawn from the Bombay, Baroda and Central India Railway but will eventually be supplied by the Tato Hydro Electric Company of Bombay.

Provide for Animal Health

A central veterinary hospital is being built and a number of dressing posts have already been completed. All cattle will be examined before being brought to the colony and, once there, will be subject to periodical immunization. Also under construction is a central segregation ward for cattle suspected of having a contagious disease. Mobile dispensaries have been provided which will go around to all units daily to attend minor ailments. Holding camps have been provided where new cattle coming in will be kept and examined before they are allowed to mingle with other cattle of the colony.

In arriving at the design for the colony the Bombay Milk Commissioner utilize many plans. The designs for all important Military Dairy Farms were studied. Layouts of Civil Government farms and certain of the better private farms were also examined. Many local farms were visited so that a better idea of what was needed could be obtained. Finally, after rough drafts of the plans were made, local producers were called in to offer criticisms and suggestions. The producer's opinions, since after all they would have to use the farms, were a large factor in determining the final plan.

Cost of planning, locating, buying and finally building the Are Milk Colony is being assumed by the government of Bombay. This is because the milk trade is in the hands of persons of small means who, by themselves, could do nothing to improve the existing situation. It was realized that a mere tightening of health regulations, without providing better fa-

GERMANY

Dividing Their Time Between the Plow and the Milk Pail German Cattle Have a Hard Time in Delivering an Adequate Butterfat Content

By **GEORGE S. MARTIN**

OWING TO CONDITIONS of climate, soil, and fodder supply, there are only medium and lightweight races of cattle being bred in the Anglo-American Bi-Zone of Germany today.

The principal medium races are the Spotted Cattle, which are cream-and-white colored, the Pinzgau Cattle, reddish brown with sometimes a few white spots, and the Lowland Cattle, which are either black and white or reddish brown and white. The main light races are the greyish brown Mountain Cattle and the extremely light Glan-Donnersberg race which is also greyish brown and is found almost exclusively in Western Germany, for the greater part, in the French zone of occupation.

All of these races are short-horned, and, with exception of the Lowland Cattle, they are being used for work in the fields during plowing, sowing, and harvesting time. The degree in which milk cows are being used for field work varies according to the different countries. While the Bi-Zone average is 30.5 per cent of the milk cows working, the minimum figure is 9.7 per cent in Lower Saxony and the American enclave of Bremen. The maximum of 69.3 per cent is reached by Land Wurttemberg-Baden (U. S. Zone).

Cattle Numbers Reduced

The drought catastrophe of 1947 hit the Bi-Zone badly. The total number of cows owned by German farmers in the Bi-Zone was 5,010,000 heads. This figure dropped to 4,421,000 heads in December, 1947, and dropped further in 1948. Last year's loss in Bavaria alone amounted to 100,000 milk cows. In some parts of Northern Bavaria fodder supplies had run out completely by December, 1947, and the farmers were compelled to slaughter a great many of their milk cows. Those that remained were maintained on a starvation diet of pine needles and dry leaves gathered in the woods. The effects of this diet showed in the milk production and health of the cattle. Only in July, 1948, there was an improvement to be noticed.

The normal annual turn-over of milk cows is 17 to 18 per cent. In 1948, however, more young cows were added, as far as the fodder supply permitted, in order to increase the production of dairy products and to reach the normal number of milk cows.

Since about 1936 the farmer of the Bi-Zone has depended entirely on homegrown fodder, which consists of clover, grass, and dried sugar beets. Up to 1936, fodder such as oil cakes was imported. In the vicinity of big cities there were specialized dairy farms that bothered neither with breeding nor with green fodder but bought fresh milching cows, fed them with imported oil cakes and grains, and changed the cows as soon as their production was decreasing. The production of their cows was very high. It was a good business that faded out of the picture as soon as the Nazis tried to make Germany self-sufficient.

Today, there are specialized dairy farms only in the Bavarian province of Allgaeu, where the richest farmers own up to 80 cows, and in Northern Germany, where the biggest dairy farms own about 150 cows.

Fodder Production Lags

Fodder is being produced and stocked very much the same way it was done 500 years ago. Green fodder ensilage is next to unknown. The grass rarely is cut with machines, mostly with scythes, which is partly due to the configuration of the country, partly to poverty, and partly to the tendency of the European farmer to stick to old, traditional methods. The hay is stored either in barns or in hay stacks.

From 1936 through 1938, the average milk production of a cow in what now is being called the Bi-Zone was 679 gallons a year. From July, 1947, through June, 1948, the average was only 395 gallons, and in some counties of Northern Bavaria production was as low as 333 gallons a year.

Most of the cattle are owned by small farmers. In Northern Bavaria, for instance, 54.6 per cent of the farmers own from one to three cows, 39.2 per cent from four to six, and only 6.2 per cent own more than six cows. As could be expected, stables are very primitive, for the most part too narrow and too dark, depriving the cattle of sufficient air and light. This and the fact that many of the cows have to work may explain the low percentage of fat in the milk of Bi-Zone cows which rarely exceeds 3.7 per cent.

2.5 Butterfat Minimum

Before the war, milk could be sold as full cream milk in Northern Germany if it contained 2.7 per cent of fat. In Southern Germany, there was no general rule, but most city ordinances requested at least 3.5 per cent. Today it is the law that only milk containing 2.5 per cent of fat may be sold to the consumer.

The surplus cream is being used by the dairies for butter production. No cream may be sold to the consumer. Even on the black market there is hardly any cream being offered. Milk and all milk products are, of course, strictly rationed in the Bi-Zone today. The necessity of this measure can be seen by the following figures:

Production of the Bi-Zone was, in U. S. short tons,

Milk	Butter	Cheese	yearly average
14,300,000	291,500	203,500	1936 thru 1939
9,248,800	209,000	81,400	1946-1947
7,392,000	146,300	72,600	1947-1948

At present, the official Bi-Zonal ration of 3.2 quarts of skimmed milk for adults and 6.4 quarts for children above six years of age a month cannot even be distributed, and consumers have to be satisfied with two thirds of those quantities. Full cream milk is being sold only to expecting mothers after the fourth month of pregnancy, young mothers feeding their children, and sick people

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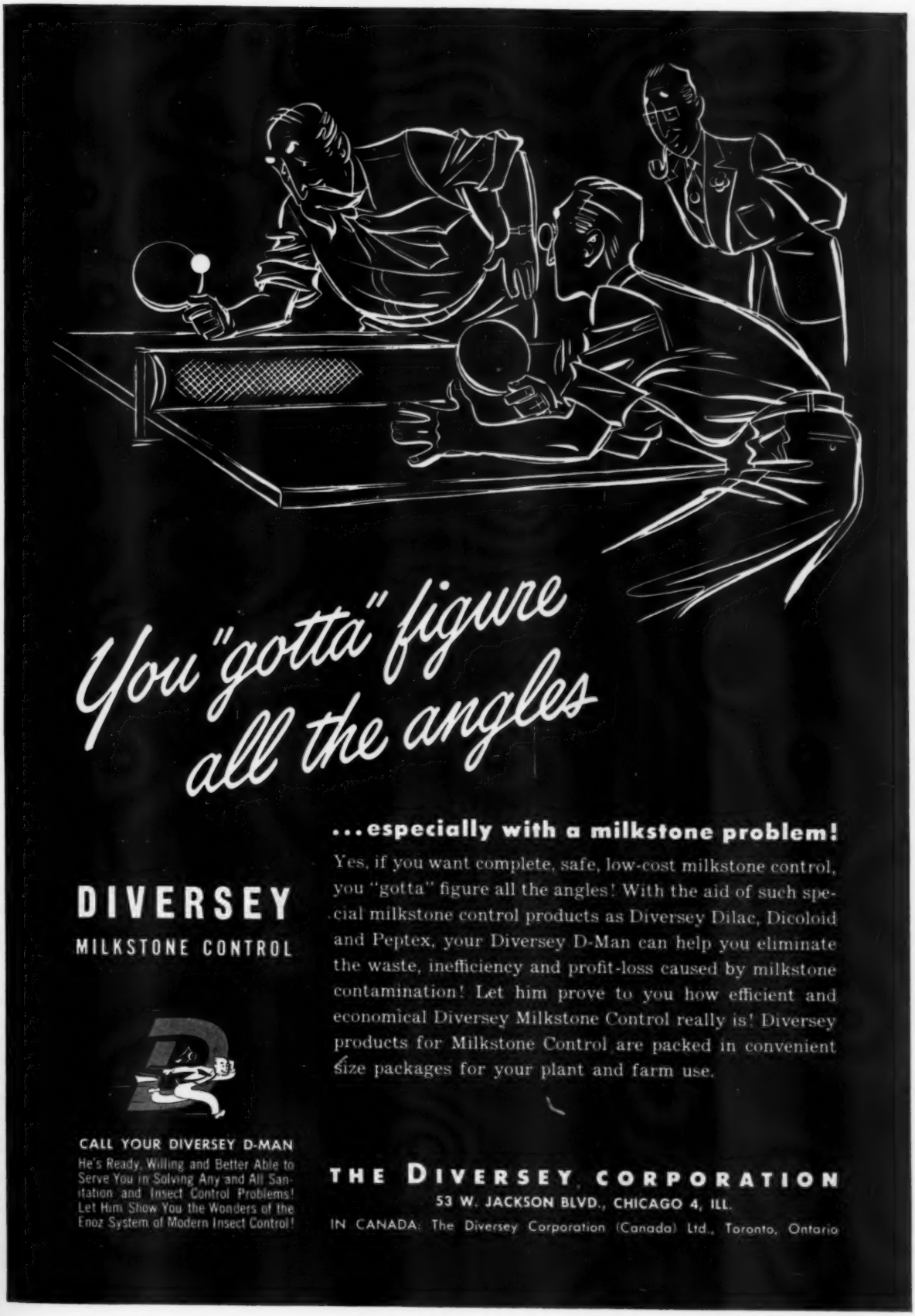
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SWITZERLAND

Emphasizing High Quality, the Swiss Industry Is Once Again Assuming Its Place as a Leading Exporter of Dairy Products*

THE DAIRY industry occupies a leading position in the Swiss national economy. Both dairy farming and cattle breeding are favored by climatic, geological and topographical conditions. It is, therefore, natural that the care and watch of the cattle constitute one of the principal branches of the Swiss dairy industry. The most essential condition which insures its prosperity is a harvest of irreproachable quality, thus making the milk ready for any use, including industrial processing. Notwithstanding the fact that the dairy herds have diminished by about 100,000 heads during the war, in 1948 the 810,000 cows yielded nearly 23 million quintals (1 quintal equals 100 pounds) of milk, which equals an average of 2,800 kg. per head of cattle. Four breeds of cattle predominate in Switzerland: The Simmental stock or Red Spotted, the Brown or Schwyz, the Black or Fribourgeoise and the small Herens Mountain breed. Swiss cattle which are bred as milk and meat producers and for use as draft animals are primarily characterized by their health and the purity of their breed.

New Delivery Regulation

A new regulation governing the delivery of milk came into force on May 1, 1949, and it applies to all commercial producers of milk. Among the other measures taken for the amelioration of the quality of the milk, one should definitely mention the collective struggle backed by the government against bovine tuberculosis, as today herds in certain Swiss regions are totally free from tuberculosis.

During and after the war, the principal concern of the Swiss authorities was to keep Swiss citizens sufficiently supplied with milk and this at the most favorable prices. In 1948, seven million quintals of milk were delivered to the non-agricultural population of Switzerland.

Since the end of rationing, the average consumption of cheese and butter has increased to 9.6 kg and 5.7 kg., respectively per person. The total quantity of milk and dairy products available to the Swiss consumer in 1948 amounted to 448 kg per person. This phenomena has been made possible by the excellent quality of the product. It is the manufacture of loaf cheese, which has reached the highest degree of quality, as since 1941 the high grade quality cheese has never fallen below 81.5% of the total production. This figure has been raised to 83.7 for the year 1947-1948. The milk and dairy products constitute the basis of a national popular nourishment. In order to increase their consumption, advertising campaigns have been reinstituted by the Swiss Milk Commission.

Prices Stimulated

It is easily understandable that the return to a normal production should be stimulated by a price policy. Before the war, the Swiss Milk Producers' Central Union, which comprises 95% of the milk producers, fixed a yearly minimum price. During the war, the prices had been and have since been submitted to the control of a federal agency. In 1938, that is, during the time of the agricultural crisis, the liter of milk sold to the processor at an average cost of 20 centimes ($.023 equal 1 centime). This price was later raised due to successive increases in the cost of production, but such increases in price were always made after the actual increase in the cost of production and only upon recommendation of the producers' organizations. The present price is now 39 centimes and represents an overall increase of 95%. In order that the consumer should not have to sustain the entire increased cost, the Swiss Confederation pays a subsidy of 3 centimes per liter. The last increase in the price of milk to the processor which was made in October 1947 has had definite repercussions on the development of production.

To a reduced minimum price of 35 centimes, one must add an allocation paid by the Swiss government in order to reduce the cost of living. Therefore, the real price obtained by the producers, including the bonuses of the cooperatives, is about 39 centimes per kilo, the subsidy of the state being paid to the producer by their professional organization. The price for the dairy products to the Swiss consumer is calculated on the basis of a price reduced by the subsidy to 35 centimes.

Pasteurized Milk 14.5c

During 1948, the retail prices reduced for the Swiss consumer were as follows:

Fresh milk	10 to 12c per quart (depending on the region)
Pasteurized milk in bottles	14.5c per quart
Fat cheese (45% butterfat)	$1.24 per kg
Swiss butter	$2.55 per kg
Imported butter	$2.43 per kg
Cream (35% butterfat)	$1.25 per quart

During the war, commercial exportation had been suspended with the exception of shipments to charitable organizations. The total dairy products being necessarily limited to domestic consumption. However, the exportation of dairy products, consisting mainly of cheese, was made possible again after the rescinding of the rationing regulations and the increase of milk production.

EXPORTS

	1938	1948
Cheese	21.538 t	7.309 t
Condensed and pasteurized milk	6.534 t	3.597 t
Milk powder	1.165 t	1.031 t

The extraordinary circumstances which prevailed after the war brought about a phenomena strange to the Swiss industry in that 360,000 tons more dairy products were imported than exported. Normal conditions would have this reversed. This balance was improved during 1948, the importation having been reduced and the exportation increased to a point where only 130,000 tons more dairy products were imported. The exports attained 29% of their 1937-1939 figure for loaf cheese and 63% for the box cheese.

13 Cheese Plants

The manufacturing of loaf, namely, the "Emmental", is the principal by-product of milk. Other quality by-products are condensed milk, chocolates, medical milk and baby cereals. There are 1,300 cheese-making plants in Switz-

(Please Turn to Page 59)

*Prepared by the Consulate General of Switzerland, New York.

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SOUTH AFRICA

In the Great Golden Metropolis of Johannesburg and Her Sister Cities Are to Be Found Ultra-Modern Milk Handling and Processing Plants

By **TERRENCE P. O'DONOGHUE**

Managing Editor, The South African Dairyman

UNLIKE MOST Americans imagine, milk for human consumption in the principal centres of the Union of South Africa is handled and processed in the most modern manner before it reaches the consumer. In Johannesburg, for instance, some 34,000 gallons daily of the total daily consumption of 62,000 gallons, is pasteurized. In the great golden metropolis which dominates the South African scene, are to be found ultra-modern handling and processing plants in which the up-to-date equipment includes many familiar American units, as well as leading British milk-handling apparatus. The same is true of Cape Town, gateway to the great sub-continent, of Durban, Port Elizabeth, East London, Pretoria, Bloemfontein and other South African cities.

The stables at "Schoongezicht" built in the old Cape style introduced in the area by Van der Stel in the Seventeenth Century.

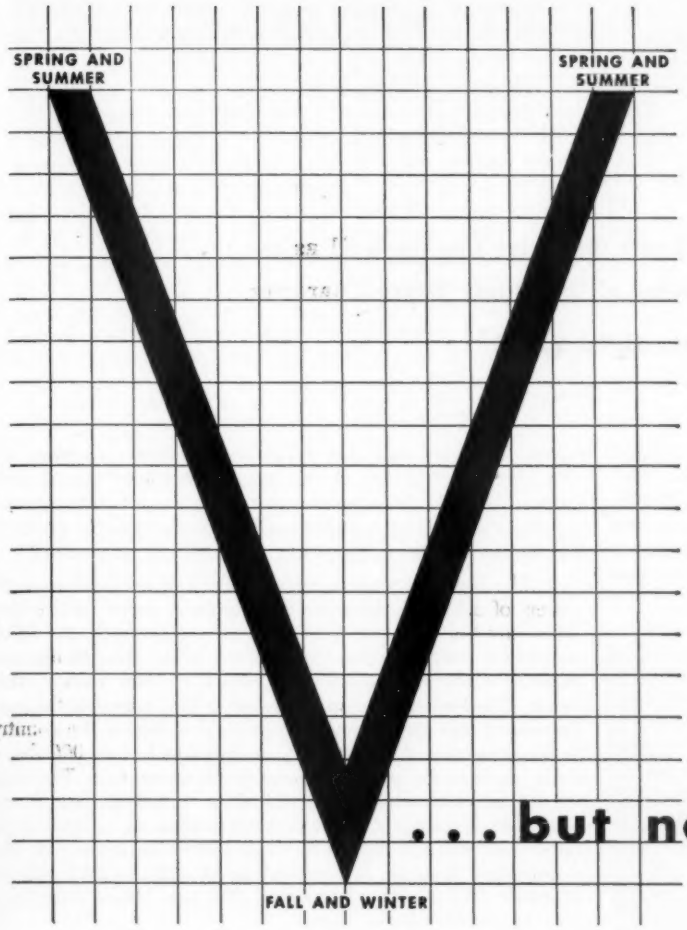
In this young country the market milk business may be said to be well abreast of the rapid progress being made in every direction and milk dealers are keenly alive to the march of modern science. On an increasing number of dairy farms mechanical milking machines are in operation and the number will increase as the declining African labour force makes manual milking less economical. Refrigeration in a subtropical country is of the utmost importance in dairying and here again, much progress has been made during the past decade or so. Farm refrigeration is, however, still in its infancy but is also making progressive strides.

On the Verge of Expansion

Briefly, it may be said with something more than the usual modicum of truth, that South Africa, as well as her neighbouring territory, Southern Rhodesia, is on the verge of great expansion as far as dairying is concerned. At present production is very much below the minimum requirements of the two rapidly increasing populations, considerably augmented since the conclusion of the war. Margarine has made its appearance during this period on the pretext that there is not sufficient butter to go round. Its sale and distribution is, however, strictly controlled and restricted to the lower income groups by the Government through the Dairy Industry Control Board, which controls the production and distribution of butter, cheese, condensed milk, powdered milk, etc., and the milk supplied for these purposes. Fresh milk, as apart from industrial milk, remains uncontrolled except that prices are fixed by the Price Control office.

South African dairy farmers favour the Friesland breed, as the familiar black and white dairy animals are known in this country, and there are many magnificent specimens to be found among the herds of prominent breeders. Sturdy animals, they flourish under the somewhat trying conditions and give greater quantities of milk without suffering any decline in quality. At present they hold all the official milk production records. Jerseys are increasingly popular and there are many excellent herds, while Ayrshires are also accounting themselves with great credit under local conditions. The Guernseys are represented in some fine herds, as also the Brown Swiss, and there seems to be a great future for these breeds in South Africa. The Dairy Shorthorns are also giving good results.

South African dairymen are on the whole progressive and anxious to keep pace with modern progress. Milk production will probably become the most important branch of the country's agriculture during the next few years during which an intensified effort to provide adequately for the people must inevitably be made.



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HOLLAND

For Two Thousand Years the Dairy Cow as Well as the Dike Has Been a Symbol of the Sturdy Dutch Character

By **JENO VEGH**

DUTCH FARMERS no longer ask their prospective brides if they are good "keezers", cheese makers. Times have changed along the Scheldt and the Zuider Zee. But the traditions of an industry that traces its ancestry back to a time when Roman legionaires extended the power of an empire to the shores of the North Sea still dominate the economy of the Netherlands.

When the Roman armies first invaded the region between the Rhine and the Maas they found numerous tribes along the rivers familiar with the manufacture of butter and cheese. As early as the eighth century Friesland province was well known for its butter and cheese. Cheese had become one of the popular foods and was used by all classes of people. Butter, however, appeared only on the tables of the rich. By the time the first permanent English colonies were planted in North America the annual sales of cheese on the famous markets of Alkmaar, Gouda, Edam, Hoorn, and Purmerend totalled some 25 million pounds.

The Netherlands is a small country with an area of only 13,202 square miles and with a population of nearly ten millions. The population per square mile is about 700. This small country with a dense population became able to export very large quantities of its dairy products and yet to feed its own population well. From 1900 onwards the large exports were balanced by equally large imports. These imports not only serve as food for people, but also as fodder for livestock. The key to this economic policy was the importation of raw products and production of high grade products for export while at the same time providing abundant nutrition for the people.

At present, after the second World War in which the wounds were deep, it can be stated that Dutch agriculture will regain its prominent position upon the world markets.

In January and February of 1948, on my return from the United States where I was on a special mission to study agriculture and industry, with an emphasis on dairy industry, I spent several weeks in Holland with the same purpose. Then I had the privilege to be the guest for a study tour around the country's most important dairy regions, of the Ministry of Agriculture of the Netherlands. I received very valuable informations relative to the dairy industry in the Netherlands, from such prominent men as Dr. P. N. Boekel, director of the Bureau of Dairy Industries in the Ministry of Agriculture and his first assistant A. J. P. van Neck; J. A. Gelug, secretary of the General Netherlands' Dairy Union "F.N.Z."; S. Hartmans, director of the Netherlands' Dairy College at Bolsward; and many leading industrialists in this country.

The Netherlands is predominantly a country of smallholdings: 42% of all agriculture holdings are smaller than 12.5 acres. The very high density of the population coupled with the very small extent of the average holdings means labor intensivity and, consequently, increasing output of high grade products as well as a stable market for the quality products. Circumstances favor the high standard of production.

The basis for such a high standard of production in the sphere of dairy industries was the improved quality of livestock. There are three breeds of cattle in the Netherlands: the black-and-white Dutch-Friesian, the red-and-white Maas-Rhine-Ijssel cattle, and the Groningen breed which is black with a white head. The Dutch-Friesian black-and-white animal is the most prominent and can be found in every province of the country. It is a pronounced dairy breed. A milk yield of 15,000 lbs. or more per lactation period is by no means uncommon. The Maas (or Meuse)-Rhine-Ijssel red-and-white breed is frugal and adapts itself readily to changing circumstances. A well-developed beef breed is the black, white head Groningen. Its milk production, however, is also very good. Of the total number of cattle 70% are Dutch-Friesian, 25% are Maas-Rhine-Ijssel, and 5% are Groningen breeds.

The number of cows-in-milk and in-calf was the following:

1939	1.566.281
1946	1.279.364
1947	1.325.835
1948	1.362.508

The average yield of milk for the Netherlands was in 1939 7,936 lbs. with an average butterfat content of 3.37 per cent. The average milk production of registered pedigree stock tended to be higher, viz. 9,920 lbs. with an average butterfat content of 3.70 per cent. The country is still suffering from the loss of cattle due to the war. The consequence of this loss is reflected in the total production of milk. The total milk production in the Netherlands was 5,400,000 metric tons in 1939. This number for the last year, i.e. for 1948 was 4,500,000 metric tons which is equal to 9,874,000,000 pounds. The average yield of milk per cow was 7,250 lbs. in 1948. For the same year the average production of milk per cow in the United States was only 5,036 lbs.

Must Import Concentrates

In surveying the Dutch dairy situation one cannot leave out the fact that the Netherlands always had to import concentrated feed for its cattle. Before the war the average import of concentrated feed per head of cattle was 500 kilos-a-year. During the last year this import was only 200 kilos per head of cattle. Fortunately, Holland had very good crops last summer which helped to feed its livestock better without higher imports. This year seems to become another good year, and, although the number of milk cows is still considerably lower than it was before the war, the Dutch dairymen are hopeful that the final milk production at the end of this year

may exceed that of 1939. Curiously enough the average fat content of the Dutch milk is considerably higher in this year than it has been in 1939.

Since the war there are also other changes in the structure of the Dutch dairy industry. The most remarkable of all of them is the increase in volume and proportion of the consumption of fluid milk. The trend towards growing consumption of fluid milk is beyond doubt a consequence of the shortage in other foods, and of the fact that fluid milk prices were kept low in many countries by government action. But we cannot ignore the results of the worldwide campaign for increased consumption of milk sponsored among others by such agencies as the Food and Agriculture Organization of the United Nations Organization. The following figures are characteristic for the utilization of milk in the Netherlands:

Utilization	Average in 1934-1938		In 1948	
	Million Pounds	Per Cent	Million Pounds	Per Cent
Fluid milk and cream	2,321	20.7	3,316	33.3
Butter	5,536	49.5	3,900	40.5
Cheese	2,291	20.5	1,832	18.5
Feed and other uses	1,032	9.3	826	7.7
Total	11,180	100.0	9,874	100.0

As it is evident from the above figures the volume of the fluid milk consumption (cream utilization being prohibited in the post-war times) increased in spite of the lower level of the total milk production in comparison to the prewar results. The Dutch Minister of Agriculture, Mr. Mansholt, in a speech on the air on January 1st, 1949 stated that, in spite of an increase of 12% in the population of the Netherlands between 1938 and 1948, the per capita consumption of milk was 30 per cent higher in 1948 than in 1938. The increase of the per capita milk consumption was made possible — among others — by the restriction of butter and cheese production, the restriction of the export of dairy products, and, by the obligatory decrease of the fat content of the milk sold for consumption. The fat content of the fluid milk for consumption was fixed at 2½ per cent in the post war years. According to the most recent regulations the fat content is now 3 per cent.

The consumption of all kinds of fluid milks increased since the war. The per capita consumption of fluid milk, self suppliers excluded, was in the Netherlands:

1938	1947	1948
169 kilos	180 kilos	198 kilos

The exportation of dairy products from the Netherlands was very significant before the war. The last year showed again an important increase in this branch of export activities, and it is hoped that this present year will bring about a further development. According to the data of the Netherlands Central Bureau of Statistics the dairy export of that country before the war on the average had an annual value of 115 million guldens, which was about 25% of the Dutch agricultural export, and about 10% of the total export. It has been estimated that with its dairy exports the Netherlands supplied 9% of the world's importation of butter, 21% of cheese, 60% of condensed milk, and 45% of milk powder. In the first post war years, the dairy export of the Netherlands was without importance. The last year, 1948, was the first in which an export of dairy products regained something of its former significance. However, the export of butter in 1948 was only 42% of that in 1939, of cheese around 44%, of condensed milk 34%, of milk powder (incl. whey powder) 43%.

EXPORTATION OF DAIRY PRODUCTS FROM THE NETHERLANDS
In Metric Tons

Year	Butter	Cheese	Condensed Milk	Milk Powder (incl. whey p.)
1939	56,434	51,952	143,793	15,827
1947	552	14,687	36,081	1,866
1948	24,082	22,728	48,332	6,776

(Please turn to Page 70)

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ITALY

General Mark Clark's Playground Racked by the Ravages of a Savage Warfare Has Made Incredible Progress in Restoring Its Dairy Industry

By MARCELLO PAOLETTI

THE ITALIAN Milk and Cheese industry which is now entirely free from any restriction, has resumed its full activity in every productive branch, and has, generally speaking, maintained intact its potentiality. Many firms, even those of secondary importance were, in the meantime, equipped with new installations completing the respective outfits, for the purpose of being in a position to meet the requirements connected with the possible, desired resumption of mass exports to the usual foreign markets. These continue, however, to be limited. This fact coupled with the shrinkage of the national territory and with the interruption of the supplies to the former Italian colonies has so far made it impossible to attain the pre-war level of production. Although 1948 showed a considerable increase compared to 1947, the dairy production was in the neighborhood of 2,000,000 quintals against 2,650,000 quintals in 1938, which constituted a reduction of about 20%.

Said production can be subdivided as follows: 451,000 quintals of the granular type, 350 quintals of gongonzola, and the balance in various types of hard cheese (Lombard type, Ementhal, Fontina, Montasio,) cheese in paste (caciocavallo, provolone, etc.), melted and soft.

Exports Restored

As far as exports are concerned they reached, in 1948, solely 29% of the pre-war production (72,130 quintals against 245,340 quintals in 1938). In the 1938 exports the Roman type goat cheese occupies the first place, having reached 47,000 quintals which is chiefly absorbed by the American market, whereas for gorgonzola (17,000 quintals) the greatest buyer has been England.

The milk production is particularly developed in the Northern regions, specially in Lombardy where exist the most important industrial outfits, and in Emilia, the entire production consisting of the granular type.

One of the most complete industrial groups handling all the processing of milk and of its by-products is the Societa d'Esportazione Polenghi Lombardo which comprises: 17 industrial dairies, 19 cheese factories, 3 creameries, 2 butter manufacturing plants, as well as factories for the industrial milk by-products and pharmaceutical products, for "zoolite" or artificial corn and for the food extracts. Altogether they process daily 3,000 Hl. of milk and of its by-products.

Pasteurization Usual

As a food product for direct consumption the milk is generally processed in pasteurizers, of which there exist installations which were recently reconditioned either totally or partially both in the most important cities and in a certain number of smaller cities. Where no milk stations exist the milk is treated chemically in special centers where it is gathered and distributed, with electrolytic oxygenated water (at 130 volumes) coming from Montecatini, which process has proved to be an efficient substitute for the pasteurization.

As far as the machinery is concerned both for the pasteurization and for the transformation industry, nothing new can be reported. There are in Italy few original types of separators of national manufacture. In the majority of the cases machines of foreign construction, of well-known makes are used. The same applies to the pasteurizers, the bottling machines, etc. On the other hand, the construction of centrifugal concentrators of new design have been registered by Italian firms. In spite of its high cost stainless steel begins to be given preference in the dairy field.

This spacious modern plant at Parma can handle 8,000 pounds of milk an hour.

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TURKEY

In a Healthy Dairy Industry Lies the Key to a Higher Standard of Living for the Descendants of the Ottomans and the Seljuks

By JENO VEGH

PEOPLE living in underdeveloped areas are looking with hungry eyes on the citizens of countries where food is in abundance. Wise men understand the danger in this fact. The United States went into the Marshall Plan on the premise that communism follows chaos. The purpose was to prevent chaos and thus to stop the progress of communism. This is what President Truman declared in his inaugural address as Point Four; the necessity for embarking on a bold new program for making the benefits of the scientific advances and industrial progress available for the improvement and growth of underdeveloped areas. More than half of the people of the world are living in conditions approaching misery, he said. Their food is inadequate. Our aim, he further declared, should be to help the free peoples of the world, through their own efforts, *to produce more food,* more clothing, more materials for housing, and more mechanical power to lighten their burdens. Greater production is the key to prosperity and peace.

One of the segments of this bold new program should be the "discovery" of lands which could be brought into cultivation, or the crops and yields of which could be improved. The hunting goes on now for such areas. The peasant farming has to be transformed into more highly productive systems of raising output both per man and per acre. The improvement of grain supplies creates a basis for the increasing of dairy and meat production, etc. But where are such areas?

Turkey Offers

In a recent study of mine, dealing with the possibilities for the creation of a nationwide modern dairy industry in Turkey, I expressed the view that Turkey is an area which could be developed into a food supplier for the outer world.

The bulk of the modern Turkish nation occupies the peninsula of Anatolia, the ancient Asia Minor, on the extreme west of the continent of Asia. The function of Asia Minor as a great "landbridge" between three continents is as old as human history. This wealthy and important geographical unit was for centuries the pantry of the ancient Roman Empire. A decline of culture and civilization, numerous wars, heedlessness, lack of international trade possibilities, and natural erosion have devastated its resources and wealth. Only in the last quarter of a century have efforts been made to rebuild this territory. The past is now becoming a prologue.

Turkey is a country as large as France and Britain combined, with a population of close to twenty million. Turkey is an agricultural country. The overwhelming majority of her population (81.8%) is making a living from the land.

Livestock play a very important role in the life of the Turkish farmer and in many cases is his main source of income. It is one of the main sources of state income too. However, Turkish agriculture, especially, the livestock industry and the dairy industry, did not make as great progress towards modern development as did Turkish transportation and other industries.

Low Proportion of Milkers

Turkey possesses a large number of livestock, but the proportion of animals milked is considerably lower than it is in countries with a more highly developed dairy industry. According to officials of the Turkish Ministry of Agriculture, the number of livestock subject to taxation (mature animals) and the estimated number of animals milked in Turkey in 1947 was as follows:

	Number of Animals	
	Mature	Milked
Cattle	7,812,121	2,561,000
Buffalos	673,544	391,000
Ordinary goats	10,366,252	7,054,000
Mohair goats	2,986,848	792,000
Sheep	18,328,138	12,350,000

A comparison of the above figures on mature animals and animals milked indicates the great possibilities for development that exists. The data on milk production in Turkey during the last nine years show that there was a stagnation, and in 1945 even a very considerable decline in production. The statistics show also that there was no very great emphasis put upon the improvement of the livestock and their production. The small difference between the total milk production in the years 1939 and 1947 emphasizes this fact. When we consider that the relationship between available feed supplies and animal numbers is favorable, even more favorable than in many countries with a highly developed dairy farming and dairy industry, we can only conclude that there must be other deficiencies which are holding back the growth of a dairy industry. But at the same time they confirm the optimism and the hope that these deficiencies can be eliminated.

Yield Per Cow Is Poor

The milk yields per cow in Turkey are very low in comparison to the yields per cow in more developed areas. The milk yields per milk cow in Turkey were in 1946, 521 liters annually, and in 1947, 564 liters. A liter is slightly more than a quart. The 1947 average milk production per cow in the United States was 2,326 quarts, which is approximately 2,200 liters, more than 4 times the production of Turkish animals. In 1947 the best average annual milk yield per cow on an international basis was that of the Netherlands which was 2,936 liters.

Yields per cow have always been lower in eastern Europe than in western Europe for reasons which are related to the agricultural organization of these countries. Feeding levels per animal are generally lower than in western Europe, both in total quantity and in total nutrients per weight unit of feed. However, the average milk yields in the eastern European countries are still considerably higher than in Turkey. There

is also a greater use of cows and milk cows for draught purposes in Turkey, and consequently a not inconsiderable portion of the feed consumed is expended in energy rather than in milk production.

The Turkish zootechnical and breeding experts are well aware of the backward character of the Turkish livestock and cattle breeding industry. They are making constant efforts to focus the attention of the government and public opinion upon this fact in an effort to initiate a general program for improving the situation.

Feeding experiments conducted over a period of several years with average Turkish cows have reiterated the basic truth that a cow is like a machine in that she converts only what is fed to her. Here are the results of these experiments:

	Average weight	Annual milk yield
Fed as usually in the villages	170 kilos	300 liters
Experimentally fed during the experimental period	250 kilos	1,500 liters

(A kilo is the equivalent of 2.2046 pounds.)

These experimental results are proof of the possibility that the Turkish cow's milk production can be multiplied by the improvement of the present feeding methods. This is an educational problem in the first place. I am confident that an energetic educational campaign undertaken with the intelligent Turkish farmers would persuade them to grow more and better feeds in order to increase milk production. Such a campaign connected with the creation of a dairy industry and better marketing possibilities would no doubt produce surprising changes within a couple of years.

Second to Tobacco

In contrast to the backward character of the Turkish cattle breeding industry and the non-existence of a Turkish dairy industry, the relative contribution of the Turkish milk production to the Turkish national income is surprisingly high. Among agricultural products milk was the second largest source of revenue.

There are no regulations relating to the quality of the milk produced for sale, nor for the methods of handling or processing. It is impossible to find a glass of pure and sanitary milk in the large cities of Turkey, which would meet the requirements in countries with a well developed dairy industry. In spite of this, milk of excellent quality is abundant in the north-eastern vilayets of Turkey. But this milk can not be transported to the cities in the West because of lack of plants and modern equipment. Milk sold in closed bottles is entirely unknown. As a consequence the consumption of milk is far below what it could be in view of the amount available. A further result of these conditions is that the farmers have no great incentive to produce more milk. Milk animals are carelessly handled and the production of milk is neglected.

The number of milking cows and buffalos in relation to the number of inhabitants of the same administrative units of territory is very favorable in many regions of Turkey. For instance, the population per milking animal in the Vilayet of Kars is 1.3, in Erzurum 2.0, in Kastamonu 2.3, in Trabzon 2.8, in Sivas 3.5. The milk produced per capita and the population per cow, in the United States and in Turkey, are given in the following table:

	U. S. A.	Turkey
Population per milk cow	5.8	3.9
Per capita yearly milk supply in liters	372	88

The milk produced in Turkey is mostly used for fluid consumption by the farmers' family or is fermented into yoghurt. A considerable part of the production is used for the manufacture of cheese, mostly of a native type, the "beyaz peynir", a soft white cheese. There is some hard cheese produced, the so called "kasar", as well as very small quantities

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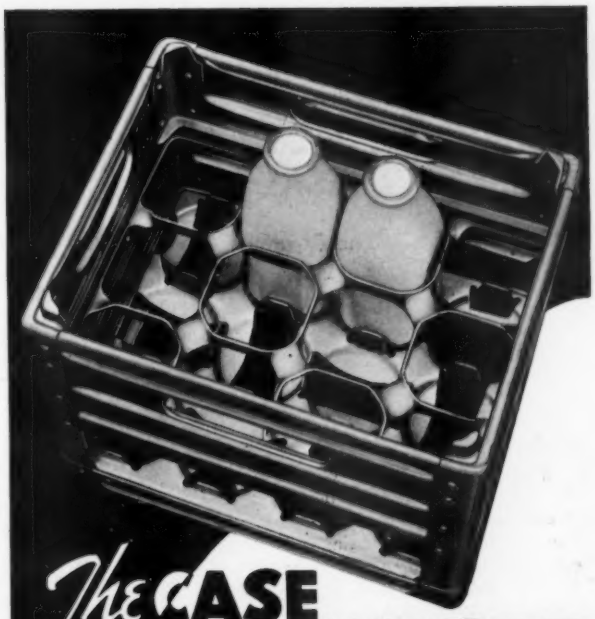

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CHINA

The Cow Is More Esteemed for Her Manure Than for Her Milk by the Chinese Who Neither Like the Beverage Nor Know How to Handle It

By **CHRISTOPHER RAND**

(Reprinted From the Atlantic Monthly)

ONE OF THE ODDEST of many post-war American good-will missions to China, and one that turned out even worse than the others, consisted of some three thousand dairy cows that began arriving at Shanghai early in 1947. The cows, which were under the management of UNRRA, included all the standard varieties—Holsteins, Guernseys, Jerseys, Ayrshires, Brown Swiss, and so forth. Many of them were the private gifts of American farmers, who wanted to help China get back on her feet, and who were undoubtedly influenced by a like project that had been carried out in Europe.

Almost a quarter of the whole cow migration to China died in the first year. I visited some of the survivors last spring at a government station near Peiping. There were a few dozen cows there, principally Guernseys and Jerseys, which were fed nothing but old dry grass and were said to be giving only fifty pounds of milk a day among them.

During the war I was stationed for some time in the South China hinterland, and there I came to realize that dairy cows have almost no place in Chinese life. The peasants around me made their living by intensive hand farming, really gardening, on small rice paddies. They were constantly having children, and their whole idea was to feed as many mouths from each paddy as they could. To this end they lived almost entirely on rice, with a sprinkling of vegetables and with a few bits of meat on feast days.

There were always ducks and chickens around and inside the houses, and often dogs and pigs, because these could be fed on household waste. But animals that would compete with humans for the soil's direct increase were scarce. A few of the richer villages had water buffaloes, which helped to till the field and turn the grain mills, but I gathered that they were tolerated because, as energy converters, they were more efficient than men—they could deliver more horsepower per unit of food consumed. The presence in this system

of dairy cows — which did no work, and which put out fewer calories than they took in — was unthinkable.

Anything that conflicted with this style of life was thought barbarous or immoral. The peasants' main ambition, outside of keeping themselves alive, was to worship their ancestors properly. When I walked through the countryside on feast days I would come on scene after scene in which some poor farmer and his wife, thoroughly scrubbed and dressed in their best cotton clothing, would be laying out gifts —really expensive things like roast chickens and pewter pots of wine — at the family graves. Part of their duty was to have sons who would carry on the worshiping, and for this reason they got married when they were scarcely more than children.

Milk is available now in the big Westernized cities along the coast, but the idea is strictly an importation. The dairies were started under foreign control and management, and the customers are still either Westerners or Chinese indoctrinated in Western ways. The business hasn't spread inland, and the more traditional Chinese neither like milk, which is classed with urine in some parts of the country, nor know how to handle it.

The Chinese officials who lived near me during the war used to go to extreme lengths to make me comfortable, because of their innate thoughtfulness and because I was a guest from an allied nation. There happened to be a few government-owned cows in our neighborhood, a hangover from some previous stage of Western-inspired innovation, which were lingering on a sort of governmental window-dressing despite the apathy of the people all around, and it was arranged that I should get a small daily milk ration. But the milk was usually sour by the time it reached me, since there were no facilities for cooling it in that hot climate, and no realization that speed in delivery was important. When it wasn't sour, keeping it sterile was such a chore that the whole project soon fizzled out.

A Chinese neighbor who was a celebrated epicure used to entertain me and other Americans at meals that drew on the best of the local cuisine as well as that of his distant native province. How to return this hospitality was a great problem. We had the local restaurants prepare feasts, but in these we could express ourselves only by spending a lot of money, not by contributing any personal skill or knowledge. The results were flat and vulgar.

Finally, at great effort, we got hold of a seven-pound can of American Army cheese. At an afternoon reception for our neighbor and some other Chinese friends we piled the cheese, which to us was a rare delicacy, in several heaping plates on a long table. But not even our guests' politeness, which was very great, could compel them to do more than taste it. They acted as if it were poison, and they would have gone away empty if we hadn't luckily dressed the table up with

some secondary offerings of rather mediocre local cakes and cookies.

It may be, as some experts claim, that milk and meat are necessities in any human diet, and that their absence leaves an intolerable vacuum. Indeed, this claim is borne out by the Chinese themselves, for they have taken a seemingly most unlikely object, the soybean, and from it have worked out a series of foods that duplicate, to an amazing extent, what cows give us. By grinding soybeans in small, primitive mills they make a white fluid called *tou chang*, that tastes somewhat like milk, that looks like it except for being on the bluish side, and that is said to have much the same food value, minus the butterfat. This is a popular morning drink. It is sold, warm and usually sweetened, at stands near bus stations and the like, and if you wish, you can usually have an egg beaten up in it. It is one of the most cheerful things about travel in China, where each day's trip generally begins at dawn.

From this same grinding process the Chinese also make a white bean curd, *tou fu*, of a consistency somewhat tougher than junket, which is often cured into a brown and more leathery substance called *tou fu kan*. Either way it is cooked into soups and stews as if it were meat. It has about the same protein content, and of course it is much more in line with the Chinese emphasis on the vegetable kingdom. The poor can eat it relatively often. It has a religious use among Chinese Buddhists, who are vegetarians. Some Buddhist temples operate restaurants where the idea is to imitate all sorts of meat dishes with bean curd. The imitation is very realistic, and things like pork chops and drumsticks are copied exactly. Bean curd is even sometimes pickled until it becomes a cheese-like substance, called *tou fu ju*. You can't say it tastes like Roquefort or Liederkranz or Camembert, but it is the same general order of thing. Some American cheese fanciers have become very fond of it.

●

MAKES ADVERTISING HISTORY

N. Y. Dairy Is First Major Advertiser in U. S. to Make 100% Switch from Radio to Video

First performance of a new program is generally a high spot in the sponsor's advertising history. But Sheffield Farms "Guess Who," making its television premier on Sunday, May 15, over WNBT in New York, marked an important stage in television history too. Sheffield is believed to be the first important advertiser in the United States to take a well-established radio program with a loyal following ("Guess Who" has been on the air for six years) and switch the program over entirely to television.

According to Edwin Funk, Sheffield's advertising and sales promotion manager, the decision to devote the company's full air-time advertising effort to television is based on solid sales and marketing reasons. "We are not going into television as an experiment," Mr. Funk says, "but on the basis of the sales performance of television in our area so far. We are sure that more and more loyal followers of our 'Guess Who' radio program are buying or planning to buy television receivers. Add this to the fact that our quiz-and-laugh show is a natural for the television screen, and known by name and style already to millions of people in the New York area, and you've got the 'clinchers' that decided us."

Sheffield is also convinced that the visible television commercial is particularly effective for its milk and other Sealtest dairy products. It is basing a large part of its forthcoming sales promotion program on the fact that people can see not only the product as delivered, but the tempting dishes the product can make. The top commercial on "Guess Who's " first telecast, for example, is a Sheffield cream promotion dramatizing the making of a strawberry festival cake.

Sheffield's home service men can follow up on their next call to a television-equipped home.

Superior

SEAMLESS AND SOLDERLESS
BAFFLE CUP STRAINER

For thorough straining, fast filtering—the dairy barn tested Superior quality-built strainer! Baffle cup prevents

swirling, protects disc against washing, channeling and breakage.

Special patented design perforated bottom construction affords greatest possible straining area.

Now available for immediate shipment

WRITE *for catalog on the complete line of Superior Metal Dairyware.*

SUPERIOR METAL PRODUCTS COMPANY

JOHN WOOD Affiliate
Founded 1867

509 Front Avenue • St. Paul 3, Minnesota

A Perennial Spring and an Energetic Group of Men Are the Big Wheels in the Growing Dairy Industry of

CUBA

By **DR. FRANCISCO DE LA FUENTE**
Dairy Industry Society International

IN OUR COUNTRY we do not have, except in very few instances, high producing cows, and this makes it extremely difficult to compile accurate statistics on milk yield per cow and total amount of fluid milk produced. Although the native cow predominates, there are many breeds of cattle in Cuba and the chief of these are the Holstein and the Jersey. Because of a prennial spring temperature the Cuban farmer has a natural pasture for his cattle throughout most of the year. In addition he uses well balanced feed containing a high proportion of protein in an ever increasing proportion. Some of the feed is processed in Cuba, some is imported from the U. S. Greater production of milk per cow has been obtained partly as a result of the greater knowledge acquired by our producers in better feeding and breeding practices.

The sanitary inspection of the Cuban milk production falls under the control of the Department of Health and Social Assistance which also controls the National General Inspection on Milk Supply with power to inspect production and marketing of milk and other dairy products throughout the country. There is, in addition, an organization known as National Board of Health and Social Assistance, made up of twenty members including physicians, engineers, veterinarians and lawyers. Matters of extraordinary import concerning health, and requests for interpretation of legal rulings, are submitted to the Board, which because of the nature of its membership is able to give technical opinions which are then submitted for final approval to the Department of Health and Social Assistance. The direct and immediate inspection of everything related to the production and marketing of milk is subject to the National General Inspection of Milk Supply.

The sanitary regulations for fluid milk in our country are set forth in Act. No. 2575, adopted on September 5, 1940. This health law is known as "Reglamento de Leche y sus Productos Derivadoes". (By-laws Regulating Milk and Dairy Products).

Cows Milk Defined

Among the provisions of that law, which is now in force although it has undergone slight amendments since its enactment, we may mention as the most important the one made by Decree No. 605 of March 19, 1946, published in the Gaceta Official of March 30 of that same year, modifying Article 38, whereby it is ruled as a necessary requirement that glass containers used for the distribution of milk must have caps and hoods. This amendment defines cow's milk, its composition, and enumerates the approved types. These are:

1. Certified Milk – Should contain no more than 10,000 bacteria per cubic centimeter.

2. Grade "A" Milk, either raw or pasteurized -- Should have no more than 50,000 bacteria per cubic centimeter.

3. Grade "B" Milk, either raw or pasteurized, the former with no more than 200,000 bacteria per cubic centimeter and the latter with no more than 50,000 bacterial colonies.

4. Grade "C" Milk – Must be pasteurized.

5. Milk for Industrial Use.

The Act also gives requirements for veterinary inspection of dairy cattle, registration of dairy cattle, milk and dairy products operators, cow herds, stables, milking, handling and packing of milk, its transportation and distribution, specific requirements of certified raw milk, raw milk grades A and B, pasteurized milk grades A and B, cream, skimmed milk, butter, cheese, evaporated and condensed milk, powdered milk, and all other processed milks.

In the drafting of the Milk Act, the Act of 1929 was taken into consideration as this Act was a result of the First National Milk Conference in which all concerns interested in the production and marketing of milk, as well as various groups of specialized technicians took part. This first bill became law on February 6, 1929, at which time the pasteurization of milk was introduced in Cuba.

Preparing New Regulation

At present government technicians are preparing a new milk Regulation to which some essential amendments will probably be introduced in order to eliminate gradually the consumption of raw milk by making compulsory the pasteurization of all milk for public consumption.

It is not necessary to outline in this article the wonderful advantages which these Amendments to our health laws will bring to the people of the Cuban Republic.

In 1943 the First National Conference on Nutrition convened in Havana, and it unanimously reached the following conclusions:

1. That milk is the most complete food in itself for man and it is a duty of every government to foster an increasing production and consumption of that food.

2. That since due to its composition, milk is a medium for the easy culture of bacteria, to protect public health it is necessary that pure and safe milk reach the consumer so that it furnishes the expected benefits for an adequate diet.

3. That since pasteurization is at present the only scientific industrial means by which a safe supply can be furnished to large centers of population, compulsory pasteurization

should be established in Cuba for all milk destined for public consumption.

4. That if the enforcement of pasteurization regulations at present is not possible in some of our towns due to their economical and sanitary conditions, then it should be made compulsory wherever feasible, and it should be progressively applied to the other towns.

5. That toward facilitating compulsory pasteurization of milk, the establishment of pasteurization plants with sufficient capacity for the supply of milk to the public is recommended. Cooperative producer plants should be formed either with the financial backing of the government or through underwriting of private investments. A third recommendation is that the State take upon itself the responsibility and establishment of the necessary plants for the pasteurization of all the milk for public consumption.

The above conclusions were fully confirmed in one of the resolutions adopted by the Dairy Industries Society, International at its meeting in Miami in October, 1947, when it recommended the compulsory pasteurization of all milk for public consumption wherever feasible.

As a result of the milk Regulations of 1929, there were established in different sections of the Republic, 29 pasteurization plants. Only four or five of these remain in operation at present, however.

According to statistical data on Havana and surrounding towns we find that in 1947 the milk consumption was:

Months	Pasteurized Milk		Raw Milk	
January	1.157.487	quarts	4.070.550	quarts
February	1.039.272	"	4.967.040	"
March	1.351.852	"	4.354.828	"
April	1.444.365	"	4.401.240	"
May	1.566.513	"	4.632.064	"
June	1.577.990	"	4.668.041	"
July	1.568.523	"	4.799.017	"
August	1.524.344	"	4.718.789	"
September	1.481.624	"	4.386.600	"
October	1.495.236	"	4.410.494	"
November	1.356.853	"	4.568.070	"
December	1.385.563	"	4.317.928	"
Totals	16.949.622		54.294.661	
				16.949.622
				54.294.661
Grand Total				71.244.283

The above figures show that the total consumption of fluid milk in Havana City can be calculated to be approximately 196,000 quarts daily, of which there is a consumption of something more than 148,000 quarts daily of raw milk and only about 47,000 quarts daily of pasteurized milk.

According to the official classification of dairy farms and plants drawn by the "General National Inspection Bureau of Milk Supply" for the year 1947, they total for the Province of Havana:

Dairy Farms — Grade "A" Raw Milk	60	
Dairy Farms — Grade "B" Raw Milk	224	
Dairy Farms — Grade "C"	25	
Pasteurized Milk Grade "A"	1	plant
Pasteurized Milk Grade "B"	5	plants
Dairy Farms — to be classified	12	

A very significant detail concerning the Cuban milk consumption is the fact that Cuba imported in the first half of 1948 a total of 203,000 cases (one case containing 48 cans of 14 ounces) of sweetened condensed milk, and 500,000 cases (also of 48 cans of 14 ounces each) of evaporated milk.

In conclusion, it is necessary to state that Havana City has a population of approximately one million, and that its daily consumption of raw, pasteurized, condensed and evaporated milk may be estimated at nearly 300,000 quarts, thus indicating an individual consumption of one-third of a quart daily.

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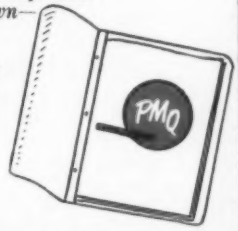
FOR BETTER MILK

When temperatures increase, so do bacteria! Keeping bacteria counts *down* becomes an even tougher job for your producers.

Help them—*and help yourself*—with the LO-BAX "PMQ" plan. It's a comprehensive promotion program including LO-BAX posters, milk house instruction cards, booklets on sanitation, letters and folders to accompany milk checks . . . all designed to encourage your producers to use an efficient chlorine rinse regularly . . . to keep milk quality *up*, bacteria counts *down*—IN SPITE OF HOT WEATHER!



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A Highly Efficient Chlorine Bactericide

- A FAST KILLER
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- STABLE (DOESN'T LOSE STRENGTH)
- GIVES CLEAR DAIRY RINSE SOLUTIONS
- READILY DISSOLVING
- HARMLESS TO COWS' UDDERS AND MILKERS' HANDS

REMEMBER— it takes a bactericide to KILL bacteria

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Lo-Bax . . . Super Nufos . . HTH-15 . . . Dry Ice Carbonic Gas . . . Ammonia, Anhydrous & Aqua Caustic Soda . . . Soda Ash . . Bicarbonate of Soda . . . Liquid Chlorine . . Chlorine Dioxide PH-Plus Sodium Chlorite Products Sodium Methylate

MR. FREDERIKSEN

Australia

This shed, 90'x60', has winter storage space for 300 tons of bailed hay. Beside it is the feeding shed with accommodations for 36 cows.

In the Land Down Under a Dairying Family and Their Daschund "Max" Make a Go of the Difficult Task of Turning Out Market Milk

By **EDGAR BEE**

AUSTRALIAN dairy farmers are still up against legacies of war. Fairly typical of the 75,000 of them running herds as a full-time occupation is Mr. S. Frederiksen, of Fyshwick, near Canberra, Federal Capital Territory. He has his difficulties, but, like most Australian dairy farmers, he finds his life satisfying and wouldn't change it. He knows that he is in the most stable of the rural industries "down under" – the one which proved itself in the depression years of 1930-34 the best able to take punishment and emerge reasonably intact. He's been in Australia long enough to be sure that it is a very good country which is headed places.

He sums up in his cautious way: "If a dairy farmer is prepared to work he can make a go of it. It's a seven-days-a-week job, and incomes at present are not grand. But the industry is improving."

If you, a stranger, meet Mr. Frederiksen in his paddocks – accompanied almost certainly by his engaging daschund, Max – you will find him at first reserved. But having assessed and accepted you, he is hospitable and helpful. Now 65, spare of speech and figure, meticulous and methodical, he left his homeland, Denmark, at the age of 26, spent a couple of years "travelling around a bit," settled down to rubber planting in Malaya. There he met his Australian wife, came to Australia in 1934 and at once engaged in dairy farming. He took over his present place in 1936. The younger of his two sons is at Sydney University, and the elder helps on the farm.

Backbone of his "hired labor" force is the Boothman family. The father and two daughters attend to the work, hygiene and management of the milking shed, a constant yearly round of activities. The mother looks after the three children still going to school and the large rent-free house – an even better one than that occupied by the boss. The family is paid £A 70 (224 dollars) a month and gets free milk and free electricity along with the house. And, of course, the cost of living is much lower in Australia than in the United States of America. Evidence of the Boothmans' contentment: they have been there three years and "seem happy to stay." As Mr. Frederiksen adds ruefully: "If you work with bachelors they get restless and go, and changes in the milking shed make the cows discontented."

Labor Costs Are Up

This problem of hired labor is one of Mr. Frederiksen's headaches. In the present slack period, June, when winter is beginning and the place looks by no means at its best, as he points out, he needs only two men on the "outside" work of the place–i.e., work in the paddocks. But in summer, with crops to be attended to, more outside help will be hired–if it can be got. Normally, five or six men would be put on, but it is doubtful whether they will be available, even at the award rate of £A 6. 3. (19.70 dollars) a week. Fourteen years ago, dairy farm workers were paid as little as £1. 10. (4.80 dollars) a week and keep. Rising labor costs have been the main factor in forcing up other costs, and milk prices have been fixed, subject to periodical revision. Dairymen generally have been squeezed in the jaws of the war-and-post-war economy – on the one side, costs which have risen despite all efforts to hold them down; and on the other, the price-fixing machinery which restricts returns. However, most dairymen, despite grumbling, have accepted the position with commendable philosophy, realizing that while there have been mistakes, the system has been basically necessary, and better times are ahead.

Apart from labor, factors affecting costs have been shortages and high prices of concentrates, materials, implements. To illustrate: last year Mr. Frederiksen bought a hay-baler. It cost him £A 750 (2,400 dollars). Before the war it would have cost him about half that. Like motor vehicles, heavy equipment has risen roughly 100 percent.

The property is purely dairying; all crops grown on the farm are used on the farm. Size is 250 acres – about the same as other dairy farms in the district. Mr. Frederiksen has about 90 cows in milk the year around, or a total of about 160 cows altogether; whereas in Australia as a whole the average sized commercial herd totals about 60 cows. About 60 head of Mr. Frederiksen's herd are young stock, and between 30 and 40 calves a year are bred. "To maintain a dairy herd of about 100 cows we must be in a position to bring in about 30 heifers a year, to take the place of those that go out," says Mr. Frederiksen.

Mr. Frederiksen examines the vital yield figures in his herd record book. His wife also seems interested. Not so the Daschund Max, on the mat: Max, Mr. Frederiksen's constant companion in the fields, is more interested in the outdoor workings of the farm.

In the milking shed. The four-stand Australian made milking machine has been giving trouble free service for fifteen years. With five operators it can handle ninety milking cows in ninety minutes. Notice the two cows waiting to be milked.

Two years ago the Government imported from Canada a Jersey bull, and Mr. Frederiksen has one of its bull calves, now eight months old, to be used next year. For the past ten or twelve years he has been getting Jersey bulls from Hawkesbury Agricultural College, New South Wales, "where they have one of the best Jersey studs in Australia".

Average milk output per day from Mr. Frederiksen's farm is between 140 and 145 gallons – year round.

The herd is Jersey and Australian Illawarra Shorthorn, in about equal proportions. There are some cross-breds of these two strains, but most of the cows are pure bred.

As any Australian dairyman will tell you, the Australian Illawarra Shorthorn – usually referred to simply as the "Illawarra" – was evolved on the South Coast of New South Wales and is a dual purpose beast, combining outstanding milk yield with capacity of calves to be fattened for beef. An Illawarra cow, Melba, was the first in the world to produce 1,000 lbs. commercial butter in a single year. Mr. Frederiksen considers that the Jersey still has the advantage of the Illawarra for richness of milk, but for yield they are about equal, and "when you get a good Illawarra it will beat the Jersey." He adds, "The Illawarra is hardier, which is a point in its favor in this district, where the winters are relatively cold."

He considers that "after further selective breeding the Illawarra will be outstanding."

Winters Are Kind

Mention of the relative coldness of winters in Australian Capital Territory, as compared with most parts of Australia, brings out a notable difference between dairying "down under" and in many overseas countries. In no parts of Australia are cattle housed in winter. Mr. Frederiksen has hedges and pine tree wind breaks for shelter, and rugs his cows. No further protection is needed. Says Mr. Frederiksen: "After a cold and rainy night milk yield may be down to 10 per cent the next morning, but full yield soon comes back." With feed and concentrates – mainly bran and crushed oats, with linseed meal when obtainable – he gets a steady all-the-year-round yield.

Cost of production is " a bit under 2/-, (32 cents) a gallon". Until June 1 he was receiving a wholesale winter price of 2/3 (36 cents) a gallon, which was then increased to 2/5 (39 cents.) Summer price was 1/10 (29 cents). Prices are fixed by the Federal Prices Branch in Australian Capital Territory and by State Prices Branches in the various States.

Given a yearly output of about 52,000 gallons of milk, it is not difficult to assess Mr. Frederiksen's income. It is not high. In fact, he will tell you it "about covers expenses." However, he lives in a very reasonable degree of comfort, is secure, and his own master. He knows that while the dairying industry has been taking a lot of punishment it shows promise of a much greater measure of prosperity.

Very important in the farm's economy is the irrigation system. Mr. Frederiksen says that only this has enabled him to increase production to keep up with advancing costs. In fact, output of the farm has been doubled. The plant would enable him to operate, if necessary, the year round without an inch of rainfall. Rainfall of the district averages 22 inches a year, but is well distributed throughout the seasons. He can irrigate about four acres a day with four

Mr. Frederiksen makes an adjustment on his cooling apparatus. The tank collects milk from all the stands in the shed.

inches of water. The overhead spray system has moveable pipes fitted with flexible joints, and is fed from 1,800 ft. of underground piping. Delivery rate is between 35,000 and 40,000 gallons an hour. Installation of the system began in 1939.

Modern Equipment and Standards

Another key installation is, of course, the milking machine. This is a "Baltic Simplex"; has been installed 15 years without giving any trouble. Like most Australian-made milking machines, it differs from the usual type of overseas in that all the milk is received in one contaner. The "Simplex" works on about 15 lbs. vacuum. Mr. Frederiksen's four-stand installation, with three operators, can handle his entire milking herd in

(Please turn to Page 53)

JOZSEF SZABO, Hungary

The Supreme Tragedy of Our Time Is Sharply Eitched by this Bitter Story of a Man Whose Crime Was the Cause of Freedom

By **JENO VEGH,** ***M. Econ. Sc., M. Journ., LL.B.***

IT WAS DURING the season of the long fall rains, that I got an invitation in 1928 from the Presbyterian minister of the town of Kiskunlachaza to hold a lecture before a gathering of the farmer youth of this old town. I gladly accepted it. I liked the people there very much. They were clever, sober and industrious. They were individualistically minded and ready to fight for freedom whenever it was necessary during the bad centuries of the glorious Hungarian history.

The original founders of the town of Kiskunlachaza were Cumanians, a nomadic people of Turkish origin closely related to the Magyar people, the Hungarians. The Cumanians, driven by the westward expansion of the powerful Empire of the Tartars, had to leave their own country, Cumania, the present-day Rumania. They fled to Hungary in the first half of the thirteenth century. They fought together with the Hungarians against the huge and victorious Tartar army, not getting any assistance from Europe, except words. After the invasion was over, the Cumanians settled in the vaste "puszta"-s of the Great Hungarian Plain, and, in spite of their far reaching self-government and privileges, they changed their own language to that of the Magyars. They were, during the centuries, always in the first lines to defend political and religious freedom endangered by the absolutism of the Hapsburgs. The Hapsburg rulers disliked them, and in the eighteenth century sold them as slaves to the Teutonic Order of Knights. But the Cumanians bought themselves free at the expense of dreadful sacrifices. I went to the descendants of this freedom-loving people. I had to speak to them on economic problems.

Trouble in the Market

At the station, two miles away from the town, Jozsef Szabo, a former schoolmate of mine, and a farmer with a Master's degree in Agriculture and with about 140 acres of property, was waiting for me. It was a light cart, especially constructed for the sandy terrain, drawn by two fine young horses, in which he drove me into town to his home. While the cart slowly advanced with jigjogs in the muddy tracks toward the imposing steeple of the Presbyterian Church, Jozsef Szabo told me that they have troubles in selling their milk production. His round brown face, his bright brown eyes got cloudy whilst he spoke of these troubles.

"You will be shocked, Jeno, at learning our difficulties. We have the best breeds of cows both the longhorn white Hungarian race and the red-and-white ones crossed with the best Swiss specimens. The fat content of their milk is excellent, that of the longhorn whites averages even at 5%. The city of Budapest is not far away. It is not as far as 22 miles where this big market awaits our milk, nevertheless, we cannot get there with it. The trust of the dairy companies in Budapest is having a strict monopoly. They will not buy our milk unless we sell it at such a low price that we are going to lose our shirts too. We had the chance to bring our milk ourselves to the city's markets and peddle door to door. A month ago this only chance was taken away from us too. No milk can be brought to Budapest by individual milk traders from the outside territory of a circle of 15 miles of diameter. We are outside of it. They put the cart before the horse, you see."

He asked me, before we arrived to the home of Rev. Balazs Szabo, to deal with this problem in my lecture and discuss with the young farmers possible remedies.

Rev. Balazs Szabo, a member of the Hungarian Parliament, was a quiet person, his attitudes were those of a wise man, an Oriental philosopher, who knows that nothing is urgent and nothing can be missed. With him I found his assistant, a young theologue, an ever active man, the blond, blue-eyed, lanky North-Hungarian coming from the Carpathian Mountains, Rev. Istvan Balogh. Twenty-one years later I was to see him again in Washington, D. C. He is now Major Stephen E. Balogh, and he is the ever busy, incessantly active secretary of the American Hungarian Federation. He didn't change much, only his weight might be doubled as a result of—he confesses it—being a permanent consumer of the good American milk.

Planting the Co-op Seed

At the meeting of the young farmers numbering some five-hundred, the chairman was Gabor Bak, a fine specimen of the old Cumanian stock. In his opening words he exposed their problems, among others those of the dairy farming.

"We are weak, because we are not organized," he said. "We cannot sell at reasonable prices. We cannot decrease our costs. We cannot transport our milk to the big market of Budapest, with its 1,500,000 souls, because we have not the transportation facilities in which we could conserve our milk. We cannot compete successfully in marketing our products, because we are not organized, we lack the collaboration among ourselves."

I was impressed by the lucidity of young Gabor Bak's statements. And so I was, when after my lecture a debate was opened, to discuss in detail the proposals. Great attention was paid to my experiences I had had a few years ago during a half year in the Netherlands. I told them about how the Dutch people too, facing many difficulties, were able to introduce new methods and carry them out with energy and enthusiasm. As a result the Netherlands emerged from the crisis as a model of sound agriculture. I explained to my interested audience that the Dutch farmers were as individualistic minded as they were, but that they coupled their individualistic character with the insight of the necessity of cooperation. The system of the farmers co-operatives helped them to achieve excellent results. I recommended to them to follow the same way.

Freedom Is a Hard Bought Thing

A few years later an invitation called me again to Kiskunlachaza. My friend Jozsef Szabo, with a smile under his black moustache said to his mother, aunt Irene, "I am going to show

Jeno a little surprise." The surprise came in the afternoon. We walked along the broad streets under the blooming acacias right on the white columned Town Hall. The statue of the Hungarian hero of Liberty: Lajos Kossuth, was already in our sight, when he suddenly stopped before a new building. "Look and read," he said. The sign-board told me that this was "The Co-Operative of the Dairy Farmers of Kiskunlachaza. "This is the fruit," he said to me, "of the seeds you planted here when you lectured to us a few years ago." They were able now to sell their milk at a reasonable price. Their women were no more compelled to peddle door-to-door. They became an important factor in the marketing system of Budapest, and they could provide themselves with modern equipment.

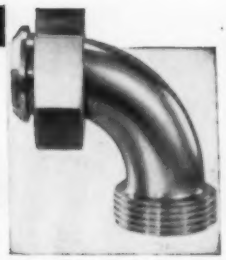
The Co-operative of the Dairy Farmers of Kiskunlachaza was very successfull and grew stronger and stronger with the passing years. My friend Jozsef Szabo was elected its president. He sought contracts with other dairy co-operatives, older and newer ones. Their collaboration was expanding. An educational program was carried out throughout the country with the help of the Hungarian Ministry of Agriculture. A Central of Dairy Co-operatives was created, the O.M.T.K. Their influence on the marketing system was good and healthy. The dairy manufacturers wanted now also to organize themselves, no more in trusts or cartels, but to be able to respond to the requirements of the new situation.

It was in 1935 when the Section of Dairy Industries of the Federation of Hungarian Manufacturers was formed. I was elected its secretary. This was a free organization. In the same year there was created by act of the Hungarian government, a federation of cow-owners and farmers' co-operatives called TETEOSZ. This group is required by law to enter into contract each year with the handlers and manufacturers of milk and dairy products. The federation was required to bargain with the association of the individual milk plant owners. The contracts, concluded year-by-year, specified terms for selling and buying milk and regulated the minimum quantity and the minimum quality of the milk sold. On the basis of these agreements in principle the individual bargains were made between producers and manufacturers. Any of the individual contracts could offer and secure to the farmer more than was prescribed in the general agreement.

General Contract Provisions

The general contracts provided, with the consent of both federations, for regulations concerning transportation, collection, sanitation, marketing, the basis of classification, classes of utilization, interplant transfers of milk, cream and skim milk, responsibility of handlers and reclassification of milk, computation of skim milk and butterfat in each class, allocation of skim milk and butterfat classified, minimum class prices, basic formula prices, determination of uniform price to producers and its computation, notifications to be made monthly to the producers, time and methods of advance and final payments to the producers of their co-operative associations, equalization payments to the producer-settlement fund, and equalization payments out of the producer-settlement fund, the arrangment of producer butterfat differentials, errors in payments, special payments, handling and computation of diverted milk, termination of obligations and their suspension or prolongation, and similar items. Penalties were provided against both parties in the event that the terms of the contract were not fulfilled. These annual contracts were subject to supervision effected by the Minister of Agriculture, who could alter and modify them in case of necessity, refuse or strengthen them. When a contract was accepted by the Minister of Agriculture, it came into force, and on its basis the individual contracts were made with only slight deviation from the all inclusive original.

These contracts concluded every year settled the major difficulties that formerly arose between producer and plant



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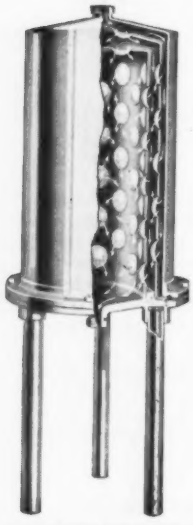

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owner so frequently. The system was an excellent tool to stabilize the production and marketing relations and assure the farmers that their milk produced in any season of the year could be sold at the same reasonable minimum price.

The above described system of the obligatory bargaining was not only of commercial and financial importance, but it contributed to the development of the Hungarian dairy industry in the educational field too. A problem confronting those responsible for carrying out the dairy educational program was one of arithmetic. It was necessary to show the farmers that the total value of the weekly and monthly payments for their milk were greater than the one or two big checks they get for a money crop such as grain. The most difficult of all obstacles, the human mind, had been geared to a single annual crop check and, as in other parts of the world, it was a tough job to make a change.

Many of the openminded farmers like my friend Jozsef Szabo, whom I saw year by year at the other side of the bargaining table understood the new methods of producing and marketing. As a consequence of this fact dairy cooperative associations grew by hundreds. Their number at the end of the war was around two thousand. The most advanced territories in this respect were the counties of Tolna, Baranya, Somogy, Zala and Sopron, all in the hilly country west from the huge Danube river.

Upper and Nether Stones

Their bad fate at the end of the war was common wherever they lived in this old and beautiful country. The invading German Nazi armies, and then the conquering Soviet Red Army did not care for the valuable milk animals. They slaughtered or drove off the cattle without respect to the very interests of the population. The milk producing herds had been reduced by sixty per cent at the end of the war. Of the one million dairy cattle in Hungarian prewar agriculture only 400,000 remained when hostilities ceased. Of all the milk plants in the country seventy per cent were destroyed and of the rest only five escaped unscathed from the fury of war. The great estates were broken up and their land and remainder of cattle distributed among formerly landless agricultural laborers or small, rather "dwarf" land holders. The energy and the willingness to live of the Magyars rapidly rebuilt the destroyed country, its agriculture and industry. At the end of 1948 the number of dairy cattle was above 850,000, however, their milk production did not still reach the level of the prewar yields.

What happened to the men who worked so successfully in the creation of a modern dairy industry? They were thrown out of their jobs in the Ministry of Agriculture, in the farmers and manufacturers organizations, because the new regime declared them "enemies of the people". Even the farmers who owned small estates and were successful in their work and helped to create the prewar farmers cooperative associations were declared "enemies of the people". The reason was that they were able and capable to give evidence of the fact that in the field of the contest of ideas there is much that private initiative can accomplish. A stigma is put on them with the Russian work of "kulak", which originally means a well-to-do peasant, but which means now in the Communist dominated countries a man who is unhonest, who is an enemy, who must be arrested, who must be liquidated . . . This is the present status of the men who were sober and industrious, free citizens and individuals, able to create and to teach others how to do. They are now left at the mercy of the mob. They have no day or night to stay in peace. They are on the verge of penury. Many of them are inhabitants of the jails.

These Things I Have Seen

Before I left Hungary, in January 1949, I had a chance to go for an hour to Kiskunlachaza. I asked about my friend

Jozsef Szabo. I was told that he worked hard and directed and helped the others too to rebuild the devastated town, which served five times as the battlefield of the Germans and the Russians. The Dairy Co-operative was rebuilt too. He was elected again to be the president of it. But soon the new regime displaced him and put him in prison. He was released later. When I happened to be in Kiskunlachaza, he was again under arrest as a suspicious "kulak". This is the fate of a Hungarian successful dairy farmer. God save the right and good men!

•

Research Meeting

Minneapolis, Minn.—Over 1,100 dairy scientists from 45 states and seven foreign nations gathered at the University of Minnesota late in June to discuss the latest dairy research.

The occasion was the 44th annual meeting of the American Dairy Science association, June 21-23. Highlights of the meeting were the presentation of several outstanding research papers, the installation of new officers of the association, and the announcements of the names of the winners of America's most coveted dairy awards.

Announcement of the winners of the highest honors possible in the field were made at the final banquet. The awards were given to:

Howard Bowman Ellenberger, retired head of the Department of Dairy and Animal Husbandry at the University of Vermont, named "Dairyman of the Year" by the American Dairy Science Association.

Thomas S. Sutton, head of the Department of Biochemistry at Ohio State University, winner of the 1949 American Feed Manufacturers' Association's $1,000 award for the outstanding contributions to dairy nutrition research.

George Herman Wise, professor of animal husbandry at North Carolina College, winner of the Borden gold medal and $1,000 award for outstanding research in dairy production.

Francis Janney Doan, professor of dairy manufacturing at Pennsylvania State College, recipient of the Borden gold medal and $1,000 award for outstanding research in dairy manufacturing.

All winners were chosen by committees of the American Dairy Science association.

New officers of the association were also installed at the final session of the association. Installation was made by retiring president W. E. Petersen, Professor of Dairy Husbandry at the University of Minnesota.

New officers installed were G. M. Trout, Michigan State College, president; R. B. Becker, University of Florida, vice-president; P. R. Ellsworth, Columbus, Ohio, secretary-treasurer; and F. J. Arnold, Iowa State College, and G. W. Turner, University of Missouri, directors.

In opening the meeting on June 21, President Petersen called upon members of the association to continue their efforts to get the right kind of men in the industry and to give them proper training.

New support as to the healthful properties of milk was also provided at the conference by Ancel Keys, Director of the University of Minnesota's Laboratory of Physiological Hygiene.

"You don't have to worry about milk, bacon and eggs causing hardening of the arteries and other similar troubles," Keys told the group.

Another University of Minnesota scientist, Dr. W. W. Spink of the School of Medicine told the group that the only way to eliminate undulant fever (brucellosis) in man is to eradicate the disease in animals.

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LAURENS KORTEWEG, Netherlands

Forty Feet Below Sea Level on an Island in Southern Holland a 93 Year Old Dairy Farmer and His Sons Are Reclaiming Their Land from Davey Jones

By **JENO VEGH**

OLD Laurens Korteweg was pretty old when I met him for the first time in 1920, of course, he was much older when I saw him for the last. This was in 1948, and he was already not less than 93. Laurens Korteweg, Az. was a good farmer and, moreover, a good dairy farmer in his long life. He is still alive, but no longer active and has left the work to be done by his sons, who are also not young fellows any more, all of them being above sixty. I called him "Oom Laurens", oom is the Dutch word for uncle.

The Netherlands escaped the miseries of the first World War, and the Dutch people felt obliged, in return for the Heavenly Providence which saved them from all the penaries of war, to do some good to people who were under the burden of all that is caused by war. So it happened that the Dutch nation, the individual families, invited hundreds of thousands of Belgian refugees during the war, and hundreds of thousands of children from Hungary, Austria, and Germany after the war. These children spent months with their hosts, sometimes even years, and many of them later married Dutch girls or boys and became Dutch subjects. This was the occasion of my coming to Holland too. I arrived there with the first train carrying Hungarian boys and girls to this hospitable people. First I was brought to a lovely region called "Little Netherlands Switzerland" so named because in this picturesque area there were "high" hills, as high as even one hundred feet. But soon I was transferred to an island in South Holland, to Overflakkee and to the village of Ooltgensplaat. Yet in Ermelo, my former residence, I had plenty of milk. The milk came to the house of the Leene family, with whom I stayed, in carts drawn by dogs. It was interesting to watch how well the dogs obeyed their master when to start and when to stop with the milk loaded cart. The dogs were not before the cart—they were under it.

In Ermelo there was good drinking water, but that was not the case in Ooltgensplaat. The island of Overflakkee in the 15th century did not exist. There were three small islands separated from each other by broad waters of the sea. But the Dutch people, taught by experience and experiments in their struggle against the capricious sea, built and improved dikes, more solid and strong in construction and extended constantly. So was it in the three small islands south from Rotterdam, in the mouth of the river Maas, that the growing system of dikes reached the other systems and a new island, Overflakkee, was created. The reclaimed areas from the sea were covered with fertile sea-silt, but they were below sea-level. Windmills were built, windmills which are so characteristic of the Dutch landscape. The windmills are not milling wheat, but are pumping stations through which the arising water is pumped out from the low-lying "polders", the territories protected by the dikes.

The Little Milk Calf

Old Korteweg's "boerderij", i.e. farm, was situated in such a polder along the "lange dijk", the long dike. There was no good drinking water, because all the water they could gain from the soil was salty. Therefore, they collected the rainwater in cisternes and used it for cooking and drinking. This water was lacking the chemical componants of good fresh water and in addition to that had a stagnant flavor which I disliked very much. But when I became thirsty I had to drink. Instead of rain-water I drank milk and buttermilk. There was plenty of both. I liked the milk and the buttermilk, and soon got a nickname: "melkkalfje" which means "the little milk calf".

Helped by Sons

Laurens Korteweg cultivated his fertile lands with his two bachelor sons, Cor and Kees, and some laborers coming out to them from the village on bicycles. The alluvial formation of his soil, a good soil, was made more fertile by assisting it by abundant fertilizers. Their main crops were potatoes, onions, sugar beets and forage beets. They worked mainle for export. They were making every acre count. The Kortewegs had some pasture land too where their cattle and draft horses found excellent feeding. The Korteweg's farm was a so-called "mixed farm", which combined arable and pasture farming. The bulk of the products of the land was for export or for manufacturing purposes, but a considerable proportion of the arable production served only for feeding the cattle. The Kortewegs depended for their livelihood on both, the crops and the cattle, and on breeding draft horses. On the farm there were six mares, all quiet and of intelligent temperament, docile and willing to work. The Kortewegs really could be proud of these massive horses. All of them had good feet, well placed, correctly shaped and heavily muscled legs, well-developed huge fore quarters, strong backs and wide, heavy, powerful hind quarters. In spite of the heavy structure they had an easy, active walk, and fine action. And the lovely foals! The pride of the Kortewegs taken in their horses was well based. The proud they were of their horses the more proud they could be of their cows.

The cows on the Korteweg's farm were all pure bred black-and-white Dutch Friesian cattle. There were sixteen cows and a sire. The cows spent the whole day on one of the nearby pastures surrounded with ditches full of water, the only gate

was closed, of course. The cows were milked twice daily, in the early mornings and in the late afternoons, just besides the huge, high-roofed barn, the "schuur". It was the duty of the two unmarried daughters, Basje and Anne to take care of the cows. At the milking not only the girls, but also the boys were busy. I had to help too. Good old Mrs. Korteweg – I loved her so much – acted as a general commanding all the people of the house what to do and how to do it. Everything was done in the most perfect way. The milk was brought immediately to the filters and then to the coolers. The quantity needed for the house and for some direct consumers was brought in containers to the cellars, the bulk of the dairy milk production was separated. It was a hand operated machine. In Ooltgensplaat there was no electricity and the houses were lit by earthen-gas lamps, this gas was used for cooking fuel too. The cream was stored in the cellars and cured there in special containers. Two days a week were butter-making days. The Kortewegs had a fifty gallon churn, also operated by hand. It was my duty to operate the separator—an Alfa-Laval system—and the churn. The butter was sweet, or only in a very little proportion salted.

Cheese Was Made

The farm was also engaged in the production of a certain kind of full cream farmhouse cheese, something of the Gouda cheese type. Cheese was not made every day, but only twice or three times a month, and the production was mostly used by the family. It was interesting for me to learn and collaborate in the dairy activities of the diligent Dutch farmers. They were not only good farmers, but were also excellent merchants. They understood very well how to sell their products at the best prices and conditions. They were also members of a marketing cooperative association, but had the right to sell individually too. Their main market was Rotterdam.

I frequently went in Ooltgensplaat to another farmer, A.J.G. van Rossum, with whose family my sisters Lenke and Piroska were staying. He was rather of the type of a dairy farmer. His equipment was more adapted to dairy production. He had more cows, among the black-and-white Dutch-Friesian ones he had also several red-and-white breeds, called the Maas-Rijn-Ijssel, which is a less purely dairy breed than the Dutch-Friesian. But all were pedigreed cattle as were those of the Kortewegs. My third sister Aranka was the guest of the village schoolmaster, Ralf Kiewiet and his family She was frequently invited to the neighboring village, to the farm of Jacob C. Wagner. This very intelligent farmer was always interested in all kind of problems of farmers in the Netherlands and studied them continuously. I liked to be with him and to discuss problems and make comparisons with the Hungarian situation. Our friendship continues even now after 29 years, and he was always informing me on their conditions and difficulties in long letters. He was also of the type of "mixed farmer", but with a strong inclination towards a commercial one. His chief products were onions for exportation to England and potatoes. The seeds of these two cultures and his other vegetable seeds enjoyed a real reputation. He was also a member of a marketing cooperative association.

Once when I visited him at his old farmhouse the "Kale Stee" built in 1652, at Achthuizen, I asked him about the reason why he was not more deeply interested in dairy farming. "The arable farming", he said, "on our island of Overflakkee is better paying than the dairying. For the cattle we have to import to our island much fodder. Our soil could produce, of course, plenty of feed, but it can produce other crops also, which have a much higher marketing value. Frankly said, I would hate to use this excellent sea-silt for crops of minor value."

(Please turn to Page 60)

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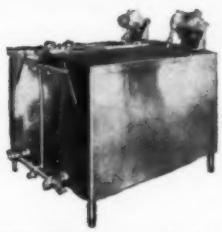

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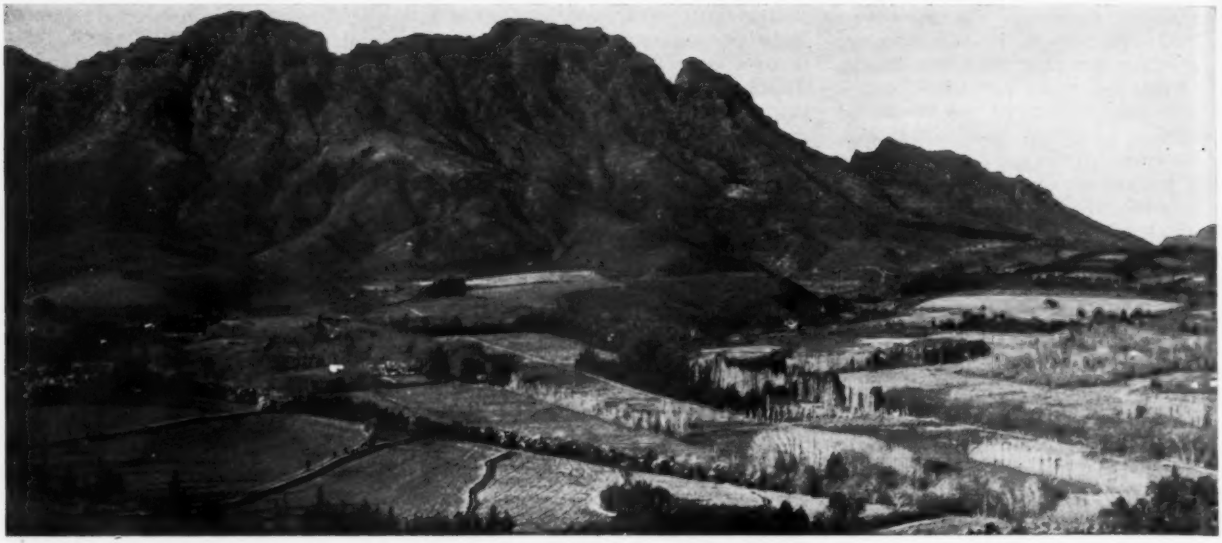

Surrounded by mountains of the Rokkeveed Range the dairy farms of "Schoonegezicht" and "Rustenberg" seem to glove-fit themselves to the base of these towering giants. Bleak sides and rugged skyline offer sharp contrast to the lush vegetation and rolling pastureland of Simonberg's beautiful valley.

PETER BARLOW, South Africa

Under the Southern Cross in the Valley of the Simonsberg the Pedigreed Jerseys of the Barlow Herd Produce Commercial Milk

By **TERRENCE P. O'DONOGHUE**
Managing Editor, The South African Dairyman

NESTLING in the magnificent valley of the Simonsberg, only a few miles from the delightful old-world, university town of Stellenbosch in the beautiful Western Province of the Union of South Africa, lies "Schoongezicht" and the adjacent farm, "Rustenberg," surely two of the most picturesque dairy farms in the world. Cape Town is some twenty-five miles away. On these farms, Mr. Peter Barlow, in addition to building up one of the finest pedigree Jersey dairy herds in Africa, with several recent notable additions imported from Ontario, Canada, operates a commercial dairy proposition supplying fresh milk to Stellenbosch. Mr. Douglas Houston, herd manager, explains that the herd is based on utility – the first and ultimate reason for a dairy cow's existence is the *economical* conversion of unpalatable and indigestible food for humans into Nature's most nearly perfect food.

The herd average last year was 8,430 lbs. milk, 420 lbs. butterfat testing 5 per cent over 299 days, twice milking, with a total of 31 cows. The herd is T.B. tested and all females innoculated for Bang's disease. Outbreaks of mastitis are rare and promptly handled when they do occur. No handstripping is practiced and the milking is done by machine and the 120 cows in the herd are spared the disadvantage and discomfort of a succession of different milkers. Electricity plays a big part in the production of the high quality milk which is the pride of everyone connected with the herd.

Following the weighing and recording of the milk after milking, it is poured over a milk cooler of the direct expansion type which is powered by a five-horse power electric motor. An auxiliary petrol-driven motor is kept in case of emergencies when there may be a temporary power failure due to storms, etc. The cool room is also powered by an electric motor and milk is delivered once daily in the early hours of the morning.

A specially designed electric milk pump pumps the milk over the cooler to the bottling machine and the separator is also powered by electricity. Smoke and fuel contamination is

On a visit to Schoongezicht, Professor John Hammond of Cambridge University, smiles approval of Brampton Beacon Bloomer young herd sire imported from Ontario, Canada. Left to right: Prof. J. S. Marais, Mr. C. W. Johnson, Prof. Hammond and Mr. Peter Barlow. Douglas Houston, herd manager holds "Brampton."

thus entirely eliminated. Steam is used, however, for sterilizing cans, bottles, buckets and milking equipment. It is used also to heat water for washing purposes but electric motors are used for operating the revolving brushes in the bottle-washing machine and the washing machine for keeping clean the white overalls worn by the African assistants. There is also an electric fan to maintain a supply of fresh air in the bottling room while bottling operations are being carried on behind closed doors.

A hammermill and silage-cutter and blower, also driven by electrical power, operate in the feed department and the feed storage loft has been designed with an electric hoist and a conveyor rail throughout its length. All the feed is grown on the farm.

Perhaps there is nowhere else in the world where dairying is carried on in such picturesque surroundings as here beneath the towering, gnarled peaks of the majestic Simonsberg — the mountains of Simon van der Stel, pioneer of the Cape, where, in this veritable fairyland of mountains, trees and rivers, the verdant farmlands yield generously to the tiller's toil.

●

Milk Quality and Milk Regulations

A study of the effect of health and sanitary regulations upon milk quality is being undertaken by the National Research Council under a contract with the U. S. Department of Agriculture, financed by the Research and Marketing Act.

Market milk and its products must conform to various statutes, ordinances, and regulations adopted and administered by local, state, and Federal authorities for the purpose of protecting public health. Such regulations are applicable to production, processing, and distribution and are designed to insure the maintenance of various safety, nutritional, and esthetic properties of milk and its products. They may differ widely in requirements and differ also with respect to administrative interpretation and enforcement practices.

The purpose of the present study is to determine precisely what requirements are being enforced in representative jurisdictions and how the requirements affect the quality of milk delivered to the consumer. In this study the term milk is considered to include market milk and such milk products as cream and skimmilk for fluid use and for use in the manufacture of ice cream.

It is planned, initially, to study municipalities with populations between 100,000 and 500,000 and the states within which these cities are situated. Statutes, ordinances, and regulations will be compiled in order to determine the range of variation of actual requirements in force and select typical jurisdictions for intensive field study, including associated administrative and enforcement procedure. The effect of regulations upon quality will be investigated through laboratory and other research methods.

The study will be conducted under the supervision of a committee operating jointly under the Food and Nutrition Board and the Agricultural Board of the Division of Biology and Agriculture of the National Research Council. The membership of this committee includes qualified personnel from the fields of dairy technology, economics and production, and also the field of public health. W. E. Krauss, Associate Director of the Ohio Agricultural Experiment Station, is chairman, and the members are C. J. Babcock, USDA; R. K. Froker, University of Wisconsin; A. W. Fuchs, USPHS; C. G. McBride, Ohio State University; Leland C. Spencer, Cornell University; W. D. Tiedeman, New York State Department of Health; G. M. Trout, Michigan State College; and W. A. Wentworth, The Borden Company.

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By **MARCELLO PAOLETTI**

Editor and Director, Rivista "Il Latte"

MILK PRODUCTION in Italy has now reached the required level, to such an extent that last year it was possible to do away with the last restrictions, i.e., the quota system covering milk, both for human consumption, in its condensed form, and in powder, etc. This abundance was, however, only temporary, seeing that the processing industry must limit the production on account of the limited export possibilities; nor has the direct consumption as yet attained the predicted increase.

In 1948 the milk production reached 54 million Hl against 68,440 Hl in 1937. Credit for this rapid resumption of the production is due to the cattle breeders, seeing that in spite of the sacrifice they had to make they rapidly rebuilt their stables putting therein cows and also bulls of a fine, selected breed. The number of the milk cows amounts today to 2,500,000 against 2,700,000 (1937 census).

Large Establishments

Although small stables with a limited number of milk cows subsist there exist in Italy at present very large modernized cattle establishments with 100, 200 and more milk cows and also groups of cattle breeding centers with hundreds of milk cows, located in various agricultural establishments belonging to the same proprietor, but distributed in different places of the same province.

A stable worthy of mention, on account of its experimental nature, is that belonging to the Com. Stefano Bausone, called "Toscana"; it extends over 200 hectares, up to the very gates of the city of Alesandria in Piedmont. The plant has 200 milk cows, 100 of which are of the brown Alpine race, whereas the other hundred belong to the Dutch Carnation race. The experimental character resides precisely in this equal distribution of the cows belonging to two different breeds which are very popular in Italy. Said distribution is intended to establish a comparison between the above mentioned two breeds, particularly as far as the milk production is concerned.

COM. STEFANO BAUSONE

Prefers Dutch Carnation

Com. Stefano Bausone has the intention to prove by experiment that preference should be given to the Dutch Carnation breed, on account of the great milk production obtained from this selected breed, which fact he considered as being already acquired same as the established adaptability to the environment.

U. S. System in Stable

His stable has been equipped according to the American rational system introduced in Italy by the Soc. SAFIZ – it is provided with all the modern units, including a mechanical milking apparatus "MANUS", – which equipment offers comfort to the cows kept in the stables, both from the point of view of hygiene and of satisfactory service.

The modern cattle breeding establishment "Bausone" yields about 2000 liters of whole milk per day, with a fat percentage ranging between 3.6 to 3.8%, reaching up to 4%. Said milk is delivered directly to the Alesandria milk station, of which Com. Bausone is one of the managers; it is then distributed to the public, duly pasteurized.

The Milk Carries a Good Price

As is generally the case with agricultural establishments handling the production of milk, this is the main income of the Bausone farm which encounters, however, difficulty on account of its being close to the city, and thus exposed to union and other agitations, in addition to the disadvantages of a general nature, to which all the agricultural establishments are subject, viz.: high salaries and heavy taxes.

MR. FREDERIKSEN

(Continued from Page 43)

90 minutes. Morning milking begins at 5 o'clock, and afternoon milking at 2:30.

All utensils are sterilized twice daily in a steam sterilization tank, and strictest standards of hygiene are observed in all phases of milking and delivery to depot. Strict U. S. Army standards of quality and hygiene were fully satisfied during the war when Mr. Frederiksen's dairy was inspected as a source of supply for the forces.

Items of equipment in the fields and shed include a chaffcutter and crusher, haybaler, plows, harvester, reaper and binder, hayrakes, seeder, tractor, motor truck and motor utility.

Storage for winter feed is provided by a shed, 90 feet by 60 feet, which can hold 300 tons of baled Hay.

Main crops are lucerne (alfalfa), hay and oats. Acreage sown to these varies from year to year. This year Mr. Frederiksen has 55 acres under oats, 60 under cutting lucerne, and 130 under summertime grazing lucerne and improved pasture. Cutting lucerne is grown under irrigation.

"Because we have to grow so much winter fodder in this district," says Mr. Frederiksen, "dairying is more expensive here than in the warmer coastal districts."

Between 500 and 600 lbs. of concentrates – mainly crushed oats and bran – is used daily. The morning feed is lucerne, chaff, the afternoon feed chaffed oats.

Although capital value of the farm is rather difficult to assess because the land is leasehold – all land in the Australian Capital Territory is leasehold or Government-owned – Mr. Frederiksen's capital investment would be between £A 8,000 and £A 10,000 (25,600 to 32,000 dollars). This covers stock, implements, improvements. The 25 years lease expires next year, but Mr. Frederiksen is not apprehensive about getting it renewed. He lives comfortably, runs a car as well as the farm vehicles. His house is equipped with all electrical aids.

Milk Goes to Co-op

The entire milk output goes to the co-operatively run Canberra Dairy Society Ltd. In the Society's depot it is cooled and kept at a temperature of 45 degrees, F., for distribution to Canberra residents next morning. This is a whole-milk supply district, and not dependent – as many Australian dairying districts are – on butter manufacture. This means that Mr. Frederiksen is not vitally dependent on butterfat content; but his milk is, nevertheless, of high quality. Each week the Canberra Dairy Society issues to members check slips showing results of the Blue Test (which measures the keeping quality of the milk at blood temperature) and Babcock Test for butterfat content.

In Australian Capital Territory the butterfat content must be at least 3.5 per cent, and in New South Wales at least 3.2 per cent. In Sydney a Blue test of 5 hours will pass.

The Canberra Dairy Society was formed when the local dairymen decider to amalgamate about ten years ago. Before then there was a great deal of friction between dairymen; delivery runs overlapped, and quality of milk varied. The co-operative, with its system of a single delivery service, and pooling of all milk to give uniform quality, together with modern cooling and handling methods, and monthly meetings at which dairymen can get together and discuss their problems on a mutual basis, has brought a cordial relationship. Group buying helps members; also the fact that individual cooling plants are no longer necessary. Individual dairymen need no longer keep their own accounts. All members are approximately equal shareholders, although holdings are partly based on production. In its organization the society is very similar to co-operative societies which have proved successful throughout Australian rural industries, and which operate in most rural centers.

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DR. ROBERT F. HOLLAND

Problems of the Industry

DR. JAMES C. WHITE

Dr. Robert F. Holland and Dr. James C. White, both of the Department of Dairy Industry at Cornell University, conduct their question and answer column each month in the "Review". Questions should be addressed to either Dr. White or Dr. Holland, Department of Dairy Industry, Stocking Hall, Cornell University, Ithaca, N. Y.

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Pasteurized Process Cheese

QUESTION — In connection with our process cheese operation, some doubt has arisen as to whether our cheese is being properly pasteurized.

We are cooking with live steam to a temperature of 160-165° F. There is no record kept of the length of time of the cook. However, it takes ten minutes to fill the smallest batch made, and the temperature of the cheese going into the last package is not below 155° F. None of the cheddar used is made from pasteurized milk.

Do you consider that the phosphatase test is applicable to process cheese (cheese food)? If not, can you recommend a test that could be used to prove whether this type of cheese is properly pasteurized?

A. E. S., Canada.

ANSWER–We feel that there is no doubt about your cheese being pasteurized when it is heated to 165° F. even though no record is kept of the time of the cook. As you know, 160° for 15 seconds is the standard for short time on milk, and certainly your product is being held for longer than this period in the zone around 160°.

There are phosphatase methods in use which are applicable to process cheese or cheese food. The normal phosphatase test has some limitations when applied to the product and it is necessary to use special methods. One of these is published by Sanders and Sager from the United States Department of Agriculture in Washington, D. C. It requires different amounts of reagents depending upon the age of the cheese. This makes it somewhat difficult to run a series of cheeses where their ages are not exactly known. We feel that the method of Kosikowsky is more suitable for your purpose because standard amounts of reagent are added to the product regardless of age of the sample, degree of breakdown, etc. The reagents are relatively simple to make and are relatively stable. The color standards are already made up in many laboratories. Directions for making the color standards are included in the Kosikowsky method.

Homogenized Milk Sours

QUESTION — We have been having a good deal of trouble with our homogenized milk souring on us. Compared with the pasteurized it seems to be way out of proportion, since we are getting practically no sour pasteurized milk.

If you could give me some information that might prove helpful in preventing this, I would certainly appreciate it.

W. C. M., Texas.

ANSWER–It is sometimes the case that homogenized milk sours more quickly than milk from the same batch that has been pasteurized only. The cause is generally an improperly cleaned homogenizer. This piece of equipment is complicated and difficult to disassemble and wash, and consequently plant employees tend to slight the job in many instances.

Homogenization may tend to produce a slightly higher bacterial count in the milk, but this is probably due to the break-up of clumps of bacteria producing more numerous colonies when the samples are plated.

The procedure recommended by one authority for cleaning the homogenizer is as follows:

1. *Immediately* on completion of the run flush the machine while it is running with a large volume of luke-warm water (100°-110° F.) until the discharge is clear.
2. Remove all parts from the head, including gaskets and wash thoroughly with a hot washing solution. Brush the head with this same solution.
3. Rinse the head and all parts with *very* hot water (190° F. +), drain and dry completely.
4. Assemble the machine just before use and sterilize by pumping through it a large volume (25 to 50 gallons, depending on the size of the machine) of a chemical sterilizer (50 p.p.m. chlorine or a quaternary ammonium solution).
5. Flush out chemicals with very hot water just before starting the milk.

Increasing the temperature of pasteurization slightly above that used on the unhomogenized product is also helpful in reducing the bacterial count. It is also beneficial to the flavor of the homogenized milk if not carried too far.

A good schedule is as follows:

1. Clarify the milk.

2. Preheat the milk to 140° F. just before homogenization.
3. Homogenize at 2000-2500 pounds pressure.
4. Pasteurize at 145° F. for 30 minutes or 164°-165° for 16 seconds.
5. Cool and bottle.

Pasteurization after homogenization is recommended for the production of a low-count product.

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TURKEY

(Continued from Page 36)

of French and Dutch type cheeses. Butter is not made to any great extent and that produced is made in very primitive churns. There are two powder milk plants of small capacity in Turkey.

A Future for Cheese

The great variety of cow's, buffalo's, goat's and sheep's milk offers an unusual possibility for the development of a cheese industry. This industry could produce fine quality cheeses and could soon acquire a good reputation on the world's markets. However, such an industry can only be developed with the adaptation and practice of modern cheese making experience and methods. The most suitable area for the creation of a modern cheese industry is in the region of the eastern vilayets. These eastern areas deserve special attention not only because their climate is the most favorable area for dairying where the greatest number of cattle are found but also because the dairy cattle are entirely immune from tuberculosis.

The backward character of the Turkish dairy industry and the complete lack of anything resembling a modern dairy industry suggests that there must be a considerable importation of dairy products to Turkey. Indeed one might be led to believe that there should be an embargo on the exportation of dairy products. However, the foreign commercial statistics of Turkey show the contrary situation, though on a small scale.

India and Greece Are Buyers

The bulk of the Turkish dairy export was cheese, besides that some milk powder was exported to India. The principal customer of the Turkish cheese was Greece. Other countries purchasing Turkish dairy products were Palestine, Syria, the United States, Bulgaria and the Dodecanese. The rapid increase of the Turkish cheese export in the post-war years, particularly in 1948, is most noteworthy. The export of cheese in 1948 was almost eleven times as great as in 1945. In vast areas of the Eastern Mediterranean and the Near and Middle East, Turkey is the only one with a favorable climate, abundance of pasturage, and the possibility of growing considerable quantities of feeds. Turkey easily could be developed into an important dairy country and an exporter of dairy products.

The favorable trend of the export trade in cheese is of great importance to Turkey, but it can only be developed further if the Turkish dairy industry will be improved and built up rapidly according to the best practices of the more advanced countries. Moreover, as Turkey has large scale needs for industrial machinery and equipment, a variety of agricultural implements and related tools, and modern transport equipment, she is obliged to expand her export capacity in order to obtain the foreign exchange with which to pay for such items. It is expected, therefore, that the Turkish government will do all it can to encourage the growth of this important agricultural industry and its export possibilities.

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New Firms, New Machinery, Combined with Generations of Experience Highlight Recent Development in

THE LAND DOWN UNDER

By **EDGAR BEE**

RECENT interest of overseas manufacturers of milk products in setting up organizations in Australia is a striking illustration of the advanced state of the industry, both on the producing and processing sides.

The Carnation Milk Company of Los Angeles has formed a subsidiary in Australia, known as Carnation Company Ltd., with capital of 100,000 Australian pounds. The company, which is registered in Victoria, has purchased a butter factory at Merrigum in that State where it proposes to manufacture processed milk mainly for export to far Eastern countries. Later this firm proposes to expand to other factories in Victoria and possibly the South Coast districts of New South Wales.

New Firms Organize

British United Dairies Pty. Ltd. has been formed in Australia with a nominal capital of 500,000 Australian pounds. This firm is a subsidiary of United Dairies Ltd., of London. The new Australian company was formed by purchasing the Victorian firm of J. E. Hanbury & Sons Pty. Ltd., who own three butter factories in Victoria. The three factories will separate butter fat from milk while skim milk, rich in protein, will be converted by special plant into dried milk food for Britain. Present production of butter and cheese at these factories will be extended to include production of dried milks, thus utilising skim milk now often wasted. Special machinery for the three factories has arrived and a small expert staff will come from London to aid installation.

England's biggest baby food firm, Cow and Gate Ltd., has bought a factory at Raleigh and another at Coff's Harbour, both on the North Coast of New South Wales. It is reported that other co-operative factories have been approached, and that one at Dorrigo, on the New South Wales North Coast, turned down an offer.

Oursina Ltd., of Switzerland, has bought a large interest in Tongala Milk Products Ltd., of Victoria, to manufacture processed milk products.

Australia is very well catered for on the dairying machinery manufacturing side, both in equipment for dairy farmers, and plant for factories. About the only item used on a dairy farm which is not made in Australia is the cream separator, the market not being big enough to warrant manufacture. Australia will probably continue to import separators for many years to come. In the judgment of Mr. A. D. Cuffe, manager of Baltic Simplex Machinery Co. Ltd., of Sydney, and chairman of the Farm Machinery Manufacturers' Association, "apart from this item, the mechanical requirements of dairying are being manufactured in Australia in a very adequate manner, and the products of the Australian factories compare very favourably with anything overseas. I believe we are producing better dairy farm machinery than anywhere else in the world, and I believe that the greatest advances in milking machine design and construction have taken place in Australasia."

Supply Only Local Needs

Mr. Cuffe added that at present Australian manufacturers could not do more than supply local needs, and could not export in any substantial quantity, but "within three of four years we should be in a position to develop a considerable export trade in dairy farm machinery to countries such as India, South America, South Africa. These are very fertile fields."

He says, "It is recognized generally that Australasian dairy farm machinery is very good, and Australia has good reason to be proud of its developments in this field. Australians have brought a degree of imagination to the conditions that exist here and in New Zealand, and out of that they have given the world a very considerable development, more especially in milking machines. Compressors and churns are also very well catered for by local manufacturers. Some English pasteurization machinery is being imported but again we do manufacture quite a good deal."

Overhead Type Milkers

Except for small bucket-type units for the man with only a few cows, practically all Australian milking machines are of the overhead type, with milk from all stands delivered into a common container. This arises from the fact that the housing of cattle in large sheds and milking of them there is not necessary in Australasia, because of the relative mildness of the climate, even in winter. Milking sheds, separate from feeding stalls, are smaller, and Australian milking machines can therefore be compact. They have thus lent themselves to the development of the releasor system, or overhead system, which is almost exclusively an Australasian development. Bucket plants are used periodically for checking on the yields of individual cows. Official herd testers, all Government officers, carry with them a set of buckets to attach to any releasor plant.

There are quite a number of other major improvements, though less radical than the releasor system, which have been developed in Australasia. One is the observation bowl which enables the operator to observe the flow of milk from

The country cattle show at Kiama, New South Wales, is always one of the red letter days of New South Wales dairy farmers. Shown are some fine specimens of the Australian Illawarra Shorthorn breed.

The Drouin Cooperative Milk Factory, Victoria is one of the largest receiving stations for milk eventually consumed in Melbourne. Notice the American made tractors on the trucks in the picture.

each cow. Another is the use of non-frictional materials in moving parts, eliminating as much as possible the necessity of using oil and grease for lubrication.

Mr. Cuffe states that Dr. W. E. Petersen, of the University of Minnesota, who visited Australia recently, was very interested in the releasor systems, and thought there was quite a good opening for them in the United States. Probably 95 per cent of the milking machines in Australasia today are on the releasor system. It is a labor-saver.

On the factory side, main interest seems to be concentrated on the continuous butter-making process, which is already on a commercial basis in a few factories, and is undergoing rigorous experiment. It is under test by the Commonwealth Government in association with the dairy produce control authorities.

"We claim to be right up to date on this, and also on high temperature pasteurization," says Mr. P. V. Turk, editor-in-chief of the Journal of the Australian Institute of Dairy Factory Managers and Secretaries, Inc., Sydney.

"Another Australian - made machine that came on the market recently," he adds, "is the straight-through washer for cans. It is being made by James Bell Machinery Pty. Ltd. and also Daniel Scott Pty. Ltd., of Port Melbourne. Bottle washing and filling machines mostly come from England, but a return bottle washer is made by Graham-Enock, an English firm now resident in Australia; also by United Dairies through their Australian agents Bryant Brothers Pty. Ltd., of Sydney.

"The refrigeration side is going to come more into the picture as electricity comes to more and more farms. This is likely to be a very substantial development."

A number of authorities claim that the continuous butter making process was pioneered in Australia, by Mr. S. Hartmann of James Bell Machinery Pty. Ltd. Mr. W. S. Cropper, of Cropper, Andrew Pty. Ltd., of Sydney, states: "The 'New Way' butter making machine is definitely Australian made and patented. It was developed by James Bell Machinery Pty. Ltd., with O'Connell and Kerr Pty. Ltd., of Melbourne, the actual makers. Mr. Hartmann spent many years on the development of this machine, which has passed the experimental stage, and is in actual commercial operation in a few factories. If it were not so difficult to get materials the machine would be on a full commercial basis."

Mr. Cropper says that another pioneering development in Australia, also to the credit of James Bell Machinery Pty. Ltd., is pasteurization under vacuum.

Aussie Machinery in Plants

Mr. Cropper sums up the state of advancement of the industry: "It is possible to equip, in Australia, a dairy produce factory with practically 100 per cent Australian-made plant. For butter-making – definitely 100 per cent. Except for small special machines which might have to be imported for special lines, the same applies to cheese and dried milk powders."

Mr. J. H. Bryant, of Bryant Bros. Pty. Ltd., now in the United States of America on a business visit, gives a broad summing up:

"Although in Australia there is a lot of processing that is not up to standard, we have an extraordinarily highly developed dairy manufacturing industry.

"City milk plants and ice cream factories are right in the top class, and some of our butter factories are without superior in the world. New Zealand is ahead of Australia in Cheese making, however.

"Australia is beginning to get into the by-products side, such as condensed and powdered milk. Although we are not as highly developed in our condensary and drying plants as a good many overseas countries, we have one or two very outstanding factories and while this side of our industry is the least developed, it is showing the greatest signs of future development. Milk solids have been used for animal foods in the past, yet serum solids in milk are a valuable source of human food. The two basic products from serum solids are dried wholemilk and dried skim milk.

"My firm is getting the manufacturing rights for a small spray drying plant with a capacity as low as 200 lbs. of finished powder and hour. This will be very suitable for factories in relatively small centres.

"The big overseas processing organizations which have started or are starting in Australia will be using certain specialized equipment not readily available in Australia – particularly can-filling machinery.

"High efficiency evaporating plant is not as yet made here, and has to be imported.

"Basic material shortages here – such as reinforcing and structural steel – are holding up programmes; also shortage of labour. Plants today are being designed for less and less labour, with lowering of operating costs; but of course this makes capital costs higher.

"Bryant Bros., in association with the A.P.V. Company Ltd., of England, are building a new plant at Rocklea, Near Brisbane, Queensland, which will be outstandingly well equipped for the manu-

(Please Turn to Page 61)

Scottish Seaweed Is Source of Stabilizer For World's Ice Cream

Surveys Currently Being Made Along Scotland's Northwest Coast Hold Out Promise of Greatly Increased Supply

THE ICE CREAM industry throughout the world has a very positive interest in the work of the scientists and airmen who are now searching the coast of Scotland, for the future flow of alginate products (produced from seaweed) will largely depend on these surveys being carried out in Orkney, and around the North West of Scotland.

Sodium alginate in one form or another is used universally as a stabilizing agent in the manufacture of ice cream and for a tremendous number of other uses in a wide range of food and allied industries.

Under brand names, familiar to all makers, these refined products have been proved of such value that it has become essential to maintain and expand their production. It has been calculated by Scottish interests that the seaweed around the West and Northern coasts could support an industry worth an estimated £15 million per annum. If this belief is substantiated by the creation of suitable collecting facilities, the future deliveries of essential ingredients to the ice cream, food and allied industries — as well as all the other industrial and commercial products involving derivatives from seaweed — would be assured. At present collection of weed is on a hand basis. The weed thus collected is mainly that found strewn along the beaches. The major volume of weed is sub-littoral weed and there has consequently been a need to determine firstly the volume of that weed and secondly the economic possibility of harvesting it. The first question has been answered successfully. There is an ample volume of weed to maintain not only all the potential consumption and harvesting, but to provide a surplus over and above the amount required at maximum level of usage. The crux of the programme of development is therefore the ability to harvest underwater weed economically and that is the problem on which the Scottish Seaweed Research Association is now concentrated.

Founded in 1944 this State sponsored body has done invaluable work in surveying the scope and value of the industry and is now actively engaged in the design of machinery to undertake sub-littoral or under water harvesting. Before surveying the manufacture of refined stabilizers for ice cream production it might therefore be of value to detail progress to date on this vital aspect of underwater harvesting.

Harvesting From Sea Bottom

The Association is working on a prototype unit which will go into use shortly. It is basically a conveyor, the rear end of which travels on metal or rubber wheels along the seabed. Specially designed hooks travel around the framework of the conveyor and tear out the seaweed, carry it up to the surface and to the delivery end of the conveyor which dumps the weed into the hold of the vessel trailing the frame.

To prevent choking and tangling, wire mesh is used on the frame. This depresses the weed and enables the hooks to do the work. Ultimately — if this system of continuous grapnel operation is successful — a unit may go to work with twin conveyors, one to port and one to starboard. These would feed into a cross conveyor which would deposit the weed into the hold.

The process of extraction and refinement of the essential commercial constituents of seaweed is undertaken by a limited number of firms in Britain. Alginate Industries Ltd., who have collecting and processing plants at various points in Scotland and Ireland, and who have pioneered commercial production of alginate products have a world wide trade in 'Alginate' their branded form of ice cream stabilizer. To produce this involves a very considerable programme of chemical processing, which includes the following. The weed is collected, graded, examined, and approved. It is then treated with alkaline liquors to give the crude extract containing alginates etc. This extract is then purified and converted to alginic acid from which is derived the various alginate salts.

Modern chemical equipment and organization has been developed to the particular needs of this industry and a very high standard of hygiene maintained throughout. The final product, ready for use by the ice cream manufacturer is thus the result of concentrated effort by crofter collectors, the chemists and workers at the weed factories and finally at the processing point — which in this instance is Girvan in Ayrshire. There, a considerable amount of work is undertaken not only on the perfection of existing products and their uses, but on the development of new uses.

"He willed his heart to science --- and the last I heard, they're still looking for it"

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QUEEN CITY EXPANDS

The Queen City Dairy Company expects to spend approximately $25,000 for new equipment during the year, according to reports made at the annual stockholders' meeting.

The board of directors and its officers were all re-elected at the meeting.

They are James E. Miltenberger, Ridgeley, president; J. William Loar, Rawlings, vice president; William H. Johnson, secretary-treasurer; Stanley and Dennis Koontz, and C. R. Armstrong.

General discussion on means of maintaining and improving quality of supply from farms was held.

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SWITZERLAND

(Continued from Page 28)

erland which were established at the beginning of the 19th century when cultivated pasture land was first introduced. As already mentioned, a good milk constitutes the basis of Swiss dairying industry and by "milk" one understands not only a milk rich in fat and proteins, but also a milk ready to assure a normal fermentation. It is understood that one distinguishes between natural and man-made elements. Besides the favorable soil and climatic conditions, a prime factor is the care exercised to keep the cattle in the best of health, particularly the cows' udders. The feed given to milk-producing cattle is also of paramount importance.

The manufacturing of the Emmental cheese owes a great deal of its success to the degree of intense experimentation of the soil. The quantity of milk necessary for the manufacturing of one or two loaves of cheese comes from a restricted region, that is, the milk yielded by the cows of one small village. This is possible only if the soil is constantly maintained in a state of fertility. In the dairy regions of Switzerland, there is an average of one cow per 0.8 hectares of land (1 hectare equals 2½ acres). If an average production of 10 litres per cow per day is obtained, 2,500 hectares of meadows and fields will suffice to assure the raw product necessary for the manufacturing of two loaves (180 lbs. equal 1 loaf) of Emmental cheese. Most cheese manufacturers are established in the immediate vicinity of their suppliers and the milk is delivered to them fresh and in top condition. The results of long studies and experimentation made in the field of the dairy industry are included in the new Swiss law pertaining to the delivery of milk, which in turn are comprised in all the buying contracts of milk and constitute obligatory conditions of any producers who sell any kind of milk.

Looking forward, the Swiss industry should, by the end of 1949, achieve a favorable balance of exports over imports. It is hoped that in 1950, this balance will be extended to pre-war levels thus restoring Switzerland to its former importance as an exporter of dairy products.

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RUSSIA

(Continued from Page 23)

grams, which meant roughly forty quarts of milk per person in the Soviet Union per year. As more than half this milk was made into butter and cheese, the consumption of milk per person is very low.

At various times the Soviet State has found it convenient to export large quantities of butter and cheese to Germany and other foreign countries, thus cutting home consumption. One of these periods was the two years of Soviet-German collaboration 1939-1941.

The destruction or removal of about one quarter of Soviet Union's milk cows by the Germans during the war further complicated the difficulties of the Soviet dairy industry. The State planning bodies have undertaken a series of plan-

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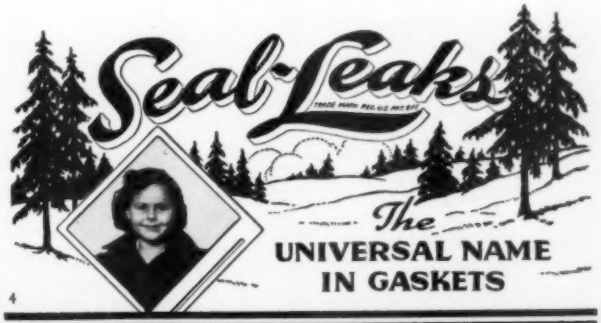

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ning and administrative measures calculated to increase the number of milk cows in the country but so far results have not been impressive. The reasons are several:

First. Private initiative has not been allowed to work.

Second. An increase in the number of privately owned cows has been forbidden.

Third. The small Kolkhozes, each with a small herd, is not a rational method of increasing the country's milk production.

Fourth. The price paid for milk delivered to the State remains very low.

Fifth. Low average production of milk per cow.

Sixth. The extensive, rather than intensive character of the Soviet dairy industry.

Seventh. The lack of direct incentive to the men and women handling the cows directly, to increase production.

All these reasons lead to a reduced speed in the reconstruction of the milk industry, and will, for a long time, prevent the Soviet Union from overtaking other countries in achievements of the dairy industry.

The price of milk in Soviet State stores is fixed by the State and is independent of supply and demand. The difference between the price paid by the State to the producer (kolkhoz or private cow owner) and the price paid to the state in a state store by the consumer, ranges from 300% to 500%.

The profit thus made by the Soviet State on the milk it buys and sells is a form of taxation of the Soviet public. The high selling price of butter and cheese prevent their becoming necessities to most Soviet citizens; they remain luxuries. Furthermore, lack of effective sanitary controls both in the receiving points and in the stores, the lack of good equipment — milk bottles, refrigerators, and pasteurization equipment, keep down its quality.

The Soviet Union has, on the other hand, immense possibilities to raise the quantity and quality of milk products turned out. In this direction little has so far been done. The State recognizes this, and attempts to improve the organization of the dairy industry, usually without success. Unfortunately the State places the interests of the State higher than those of the people.

Perhaps the future will eliminate some the principal reasons preventing improvement, and will permit the accelerated development of the Russian Dairy industry. This would be possible on the basis of a complete reorientation of Russian governmental policy, and economic structure an extensive use of the experience of dairymen in foreign countries, and probably with the help of friendly foreign countries.

●

LAURENS KORTEWEG

(Continued from Page 49)

The frequent correspondance I had with my friends on the South Holland island of Overflakkee kept me up-to-date with their developments and problems. Between the two World Wars the want for Dutch dairy products grew. Dutch butter and cheeses were welcome at the markets of England, Germany and Belgium in an increasing quantity. This had an impetus stimulating my friends on Overflakkee to develop their dairy farming activities. They did it but in the way of promoting dairy cattle breeding for exportation. Their successful progress continued incessantly through the years. But one day the Evils of War attacked the peaceful regions of the Netherlands. The Dutch people couldn't escape the miseries of war as they had done during the first World War.

The invading German Army occupied the country; and when years later the Allied Powers brought the flags of Liberation to the southern islands of the Netherlands, the German forces recognizing the fact of the inevitable retreat blew up the dams protecting the "polders" of Overflakkee. The inhabitants of Ooltgensplaat were ordered by the Nazis to evacuate the area before the dikes were opened. I saw photos taken in secret, showing this sad moment of inundated farms and villages. In a few days the destruction was complete, houses were ruined and barns looked out of the new "sea" with their roofs as abandoned widows. Soon after the capitulation of the German Army the inhabitants of the island, and among them the Kortewegs and other friends in Ooltgensplaat set to work with might and main and started the actual work of reconstruction. On one point all were agreed: the land must be reclaimed once more at all costs. The gaps in the dikes were closed, the draining of the land started. It was a tremendous undertaking and took some time to complete, it took several months. Not only everything that stood above-ground: farms, houses, churches, schools, buildings were ruined, but the wave motion had affected the bottom and damaged or destroyed most of the roads, ditches and canals, the latter being of specific importance in the "polders".

Devastation Complete

When I visited the Kortewegs, the Van Rossums and the Wagners once more in February, 1948, it was still a sad and hopeless sight to see the once flourishing landscape now endless grey plains, with no shelter anywhere, not a single tree or bush, because everything was killed by the overflooding salt water. Even the soil became so much salted that it took years to have the first crop. The effect of this situation on the former cattle breeding was prohibiting. No fodder, no cattle. That was the situation for a long time. Later, it was allowed to have one single cow for the larger families. And it was a great honor and privilege that the wife of Cor Korteweg in the rebuilt old house on the Hoofdstraat, the Main Street of the town, offered me a little piece of butter, a very scarce treasure. The old farmhouse, the "boerderij" on the Long Dike didn't exist anymore. Old Laurens Korteweg, then 93, surrounded by his children, grandchildren and great-grandchildren, on that sunny February Sunday morning said to me: "Jeno, come again, and I will show you that we shall have more and better cows than ever we had."

●

MILK FLIES IRISH SEA

(Continued from Page 18)

of transporting milk by air. This experiment proved so successful that it was repeated in 1948 on a much larger scale. Thus was born the "Milk Lift", without which England could not have maintained the weekly ration of 2½ pints a head during the months of September and October in 1948.

Transportation Costs High

And what of the costs of this enterprise? For one gallon of milk the Ministry paid about five shillings ($1.00), two shillings and fourpence (47c) of which paid for the transport costs. When the milk is produced in England itself, transport costs amount to less than twopence (4c); that is, one fourteenth of the cost by air. The Ministry of Food estimated that transport of the milk by sea would scarcely have worked out cheaper than the air cost. Specially equipped ships for this purpose were not available, and the installation of the necessary plant on two boats would have been very costly.

It cannot be denied that the "Milk Lift" is an expensive business. But compared with the total milk consumption in Britain, the quantity imported was only a modest one, so that the extra cost involved, distributed over the total population, was negligible. Whether the "Milk Lift" will be repeated in 1949 or whether other means of transport will be used if a need for extra milk arises again has not yet been decided.

CLAY TO STAINLESS STEEL

(Continued from Page 10)

was quickly followed by a German development that was a true stainless steel. This steel containing 18 per cent chromium and 8 per cent nickel. It was Dr. Bruno Strauss of the Krupp Works who made the discovery. Here again is the fascinating hegira of an idea in total disregard of the demarcations of political boundaries. From England to Germany and thence to the world the idea travelled.

The implications of this brief voyage into the pedigree of the equipment that is found in the modern dairy plant are tremendous. The ultimate freedom is the freedom of ideas. In the story of the dairy industry, an industry concerned with the ordinary task of taking milk from a cow and placing it in a safe, palatable form on the doorstep, one finds the full expression of freedom. We are so inclined, in our thinking, to consider the great ideals of human liberty and human freedom in terms of political documents and the deliberations of political councils that we lose sight of the final significance of freedom. The freedoms that last are not the freedoms guaranteed by signatures scratched on parchment; the enduring liberties are those that have become so much a part of a society that their eclipse can only mean the eclipse of mankind. There is more to the dairy industry than milk and cream. There is a mighty heritage of freedom that is at once a charge from the past and guide post to the future.

●

THE LAND DOWN UNDER

(Continued from Page 57)

facture of stainless steel equipment, such as spray drying equipment, condensing plants, vats.

"One difficulty of the Australian manufacturer is to keep up with modern design. The average dairy machine manufacturer in Australia is not operating in a big enough way to enable him to keep up with development and research work."

Mr. Bryant views with some uncertainty the manufacturing future. "A fall of prices for our primary products would affect the manufacturing picture also. The industry has been under-capitalized. A modern milk products factory costs about £A 200,00 Australian pounds to build and equip. This is one of the problems of the cooperative movement (which has built up in the past Australia's network of small dairy factories in rural centers)—how to provide funds for a complete milk economy.

"No doubt a large amount of money needs to be spent also for the technical training of operatives; the equipment is improving faster than the men, and this creates a very difficult servicing and maintenance problem.

"Dairy education in Australia needs to be pepped up considerably. Huge funds are being provided to promote the wool industry; relatively nothing for dairying. There is a long-term need for training people in all phases of the industry.

"However, a dairy training college is being built at Hawkesbury, New South Wales, at a cost of about £A 150,000 Australian pounds. The building was started at the beginning of this year."

Valuable work on the educational side is also being done by the Australian Institute of Dairy Technology, which has members from every phase of the industry. The institute was started about four years ago, and has developed into an Australia-wide organization playing an important part in the dissemination of scientific knowledge. It has become a very important factor in the industry, and is very similar in organization and scope to the similar institute in England.

Also there is close co-operation between Government Departments, factories and producers. This is the secret of dairying advance in Australia.

INDIA

(Continued from Page 25)

cilities, would serve no purpose other than to drive the present producers out of business.

Project to Pay for Itself

The estimated cost of the project, up to the present time, is 21,370,000 rupees or approximately six and a half million dollars. Cost of the completed project will reach fourteen million dollars. Economies effected by producing milk under conditions made possible by the colony will offset the entire capital outlay in a period of not more than three years after completion. The one item of cattle replacement alone, usually $9,000,000 annually, will be so vastly reduced that it, in itself, could pay for the farms in a relatively short period. Besides, the major portion of the money is being spent on acquiring the land, building roads, developing water supply arrangements and constructing buildings which are all permanent assets and not subject to speculation or wide fluctuation in their value.

The government, in providing a spacious, sanitary place to stable and milk herds, hopes to accomplish three main objectives. The first is to raise the quality of milk so that it is a safe food. The second aim is to increase production, heretofore limited by lack of space, filth, poor management and many other causes. Finally the government hopes to lower the cost per seer so that the average citizen may enjoy the benefits of the extra milk that is produced.

It is a good hope, one that is heightened by the motto of the Bombay Milk Commission which is:
Where milk cattle are properly cared for,

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Land grows richer,
Children grow healthier,
and
Debts grow fewer

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MARKETING ORDERS

Knoxville, Tenn.

The U. S. Department of Agriculture announced its decision to issue a Federal order to regulate the handling of milk in the Knoxville, Tennessee, milk marketing area.

The Federal order, requested by dairy farmers in the area would establish minimum prices to dairy farmers, pool the returns to dairy farmers, and require milk handlers to pay dairy farmers the minimum prices. Heretofore, there has been no Federal order for the Knoxville area.

Before the order may be issued it must be approved by two-thirds of the dairy farmers in the area.

The marketing area to which the order would apply includes all of the area within the corporate limits of the city of Knoxville.

The Department's decision on the action followed a recommended decision issued May 20 to which interested parties were given an opportunity to file exceptions. The decisions were based on evidence received at a public hearing held in Knoxville, July 21 to 25, 1948, to consider a proposal requesting a Federal order. The proposal was submitted by the Knoxville Milk Producers, Inc.

Under the provisions of the order, milk produced by dairy farmers in the area would be classified into two classes. Class I would consist chiefly of milk used as fluid milk, milk drinks, cream and cream products (except ice cream mix). Class II milk would include all milk used in manufactured dairy products and milk disposed of as animal feed and allowable plant shrinkage.

Minimum prices for milk going into Class I uses would be determined under the order on the basis of a basic formula price to which specified differentials for various seasons of the year would be added. The basic formula price would be the higher of (1) the Class II price, (2) a formula price based upon the open market price for butter and cheese, (3) a formula price based upon the open market prices of butter and nonfat dry milk solids, or (4) the "paying" price of 18 midwestern condenseries for producer milk. The differentials to be added to the basic formula price would be set at $1.10 per hundredweight for the months April through July, at $1.50 August through November, and $1.30, December through March. However, a provision is made for a price of at least $5.40 per hundredweight for Class I milk, August through November, 1949.

The minimum price for Class II milk would be the average of the "paying" price of 10 southern condenseries and manufacturing plants.

●

Philadelphia, Pa.

Dairy farmers in the Philadelphia, Pa., milk marketing area will ge assured of the present minimum price of $5.50 per hundredweight for Class I milk through September, the U. S. Department of Agriculture has announced. Scheduled to expire June 30, the minimum price was extended by the Department to continue serving as a temporary pricing provision until a more permanent method of pricing can be established for the market.

The price extension was made by suspending the provisions of the Federal order regulating the handling of milk in the Philadelphia milk marketing area which called for the expiration of the minimum price after June 30. Notice of the proposed action was issued June 1 to give interested parties opportunity to present written views and comments. All views submitted favored the proposed suspension.

Class I milk in the Philadelphia market consists chiefly of milk used in fluid milk and milk drinks. The present minimum price was first established to apply during the months of April, May and June, 1949.

●

Nashville, Tenn.

The U. S. Department of Agriculture recommended that the minimum prices paid to milk producers in the Nashville, Tennessee, milk marketing area be set at $5.20 per hundredweight for Class I milk and at $4.70 per hundredweight for Class II milk from September through December, 1949. Department officials stated that these prices are needed to assure an adequate supply of milk for Nashville during the coming fall and winter months, a period when milk is in shortest supply.

Class I milk in the Nashville market is chiefly fluid milk and milk used in milk drinks, Class II is largely fluid cream, while Class III includes milk for manufactured dairy products.

The pricing formula now in effect under the Federal order regulating the handling of milk in the area determines the minimum Class I and Class II milk prices by adding $1.25 and 75 cents, respectively, to the basic price for milk. The basic price represents the price paid for milk going into manufactured dairy products.

Department officials stated that this formula might provide a minimum price, September through December, as high as that called for in today's recommendation, depending upon the price of manufacturing milk. However, they believe that if milk production in the area is to be substantially encouraged during the months of shortest supply, milk producers must be given definite assurance of a specific minimum price on which they can base plans for continuing production on a high level.

Other changes recommended by the Department in the announcement are largely of an administrative nature.

●

Springfield, Mass.

A public hearing was held in Springfield, Massachusetts, July 11, to consider a proposal for establishing a Federal order which would regulate the handling of milk in the Springfield milk marketing area, the U. S. Department of Agriculture announced. The marketing area includes the urban areas near Springfield.

The proposal, submitted jointly by the New England Milk Producers' Association and the United Dairy System, calls for a Federal order patterned after those regulating the handling of milk in the Greater Boston and Lowell-Lawrence milk marketing areas. The two groups represent a majority of the dairy farmers in the area.

The proposed Federal order would establish minimum prices to be paid to dairy farmers and require milk handlers to pay the minimum prices. The order also would pool the returns to all dairy farmers who supply milk regularly to the Springfield market.

The Springfield market draws its milk supply from five States, principally from Massachusetts, Vermont and New York, and to a lesser extent from Connecticut and New Hampshire. The producer groups contend that the stability of the market and even the continuance of a market for local dairy farmers is threatened by the receipt of milk from out-of-state sources not subject to control by the

Massachusetts Milk Control Board. During the early months of 1949 many Massachusetts dairy farmers were dropped by handlers who were purchasing cheaper out-of-state milk, the producer groups point out.

Certain handlers have protested the payment of minimum prices established by the state of Massachusetts for milk produced in the state in view of the lower prices paid by other handlers buying out-of-state milk. The Federal order would establish minimum prices to apply to all dairy farmers supplying the Springfield market regardless of the state in which the milk is produced or received by the handler.

The order proposed by the producer organizations would establish a market-wide "pooling of producer milk" which would result in uniform prices to all producers. Price differentials based on location would be provided for nearby producers similar to those in the Boston milk order. Milk would be classified in two classes: that used as fluid milk and milk drinks would be in Class I and all other milk products in Class II.

●

New York City

The U. S. Department of Agriculture announced an extension of the present method of pricing Class I-A milk in the New York milk marketing area through the remainder of 1949. Class I-A milk consists chiefly of fluid milk sold in the New York area.

The Department suspended a provision of the Federal order regulating the handling of milk in the New York milk marketing area which called for the present pricing method to expire June 30. The present pricing method establishes a price for Class I-A milk (3.5 percent butterfat) at a level 19 cents less than the price established for Class I milk (3.7 percent butterfat) in the Boston market. This method, put into effect January 1, 1949, for a six-month's period, is now extended through 1949.

Notice of the proposed action was issued May 24, to give interested parties opportunity to present written views and comments on the suspension. All views submitted favored the proposed action.

A public hearing to consider proposals for long-range revision of the method of pricing Class I-A milk in the New York area is expected during the next six months although no request for such a hearing has yet been received by the Department.

●

Dayton-Springfield, Ohio

The method of pricing milk to dairy farmers in the Dayton-Springfield, Ohio, milk marketing area has been changed so as to prevent minimum Class I (fluid milk) and Class II (fluid cream) prices from rising during each of the heavy milk production months of April, May and June above the average of such prices in effect for the two immediately preceding months, the U. S. Department of Agriculture announced. The change also prevents such prices from dropping below a similar average for the two preceding months in each of the slack production months of October, November and December.

The change was made in the amended Federal order which regulates the handling of milk in the Dayton-Springfield milk marketing area. The amended order became effective August 1.

The change will help to further level out the rate of production through the year by providing against sharp price declines on milk produced during the months of lowest supply and against sharp price increases during the months of greatest production, such as occurred in 1948. The order does not establish resale prices for milk.

●

Paducah, Ky.

A public hearing was held July 6 in Paducah, Ky., to consider proposals for revising the seasonal pattern of prices assured to dairy farmers in the Paducah milk marketing area so as to compensate adequately those farmers who maintain a level production throughout the year for the Paducah fluid milk market, the U. S. Department of Agriculture announced.

One of the major proposals would amend the Federal order regulating the handling of milk in the Paducah milk marketing area so as to provide for a larger spread between the seasonal price differentials which are used in determining the minimum prices for Class I milk (chiefly fluid milk and cream). The minimum prices are obtained by adding the price differentials to a basic price which represents the price paid for milk going into manufactured dairy products. The proposal would reduce the differentials in the months of heaviest milk production and increase them during the months of shortest supply so as to promote a more even rate of production throughout the year.

Another proposal would amend the order to include a "supply-demand" adjustment in the pricing provisions. This proposal would have the effect of increasing the minimum price for Class I milk whenever the total quantity of milk produced in the area falls short of the market needs. It also would have the effect of decreasing the minimum price whenever milk is in over-supply.

Other proposals to be considered at the hearing would (1) include July as a month of heavy production along with the months April through June, (2) reduce the administrative assessment rate from 5 cents to 3 cents and exempt from assessment all milk (originating outside the Paducah area) which already has been assessed under another Federal order, and (3) establish the use of affidavits as satisfactory proof of the disposition of milk, skim milk or cream which a handler is obliged to dispose of with no return. Additional proposals to be considered are largely of an administrative nature.

The proposals were submitted by the Paducah Graded Milk Producers' Association, the Midwest Dairy Products Corporation, and the Production and Marketing Administration.

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Out of the Holding Tank

Grand Rapids, Michigan

A new $90,000 building for Bylsma's Dairy Products, Grand Rapids, Michigan, is now under construction, and company officers believe the unit will be completed by October 15.

Of brick construction, the building will have interior walls of tile and glass blocks in most of the window spaces. The 60 by 97 foot structure will be one story tall and will serve as a garage for trucks, and will also house refrigeration equipment. The main floor will be for production equipment, offices, and a dairy bar.

Bylsma's Dairy Products is owned by Albert, Charles and John Bylsma. The business was begun 25 years ago by their father the late J. W. Bylsma. The firm has been expanding rapidly, having purchased last year the Northwest Dairy, and several small outlets earlier.

●

St. Louis, Missouri

Corwin J. Schneider, 55, former executive of the Detroit Creamery Company, Detroit, Mich., has been elected president of the St. Louis Dairy Company, to succeed Basil M. Lide, Jr., it was announced recently. Lide resigned in May.

The Detroit concern and St. Louis Dairy both are subsidiaries of the National Dairy Products Corporation.

Other new officers include Frank Gardner, executive vice president, formerly with National Dairy in Chicago, Ill., and D. W. Stewart, vice president in charge of ice cream operations. Stewart was with the National Dairy Products subsidiary in Toledo, Ohio.

●

Nowata, Oklahoma

One of the biggest steps forward in development of the Nowata county dairy industry has been taken here with the establishment of a $30,000 powdered milk plant by Charles A. Whitford.

Whitford announced that the plant has been completed and is in the market for Grade C milk to be used in manufacturing powdered milk.

The new plant is located to the north of the Nowata Creamery and is a 26 by 50-foot annex, equipped with the latest stainless steel equipment.

Whitford's creamery will continue the manufacture of butter. The new plant creates a demand for Grade C milk for which there has been a great need in this area.

●

Reynoldsville, Pennsylvania

Smith's Sanitary Dairy opened a new plant in Reynoldsville, Pa., recently. The establishment includes a new dairybar with a complete soda fountain.

○

Middleville, New York

Plans for the construction of a new $100,000 milk-housing plant for the Middleville Dairymen's League Co-op. Assn., have been announced by Milburn Huntley director of the Herkimer and Oneida County Dairymen's League.

According to Huntley, the new plant, which is scheduled for completion before the end of the year, will have a daily capacity of 800-cans. The most modern coolers, pipes and conveyors will be installed in the building and milk will come in contact only with stainless steel equipment as it is being processed, Huntley said.

The proposed new building will be made of concrete blocks and painted white with water-proof paint. Black and red paint will decorate the exterior woodwork of the building and the front will be landscaped.

●

Milford, New York

Near completion of a $100,000 Dairymen's League construction project at Milford has brought League new construction in this area to nearly a half million dollars in the past two or three years.

The construction at Milford is a new milk receiving and shipping plant, at the site of the cheese factory there. The cheese factory will continue in operation on a stand-by basis. Field Representative C. E. Lowery declared, to handle surplus milk when necessary. The new receiving plant will be equipped to handle 1,000 cans daily from the approximately 80 dairymen now shipping to Milford.

●

Portville, New York

Purchase of the Abbotts Dairies, Inc., plant at Portville, Cattaraugus County, N. Y., was announced recently by the Dairymen's League Co-operative Association.

D. L. C. A., which has locals at Townville and Cambridge Springs, Crawford County, earlier announced the purchase of an Abbotts Dairies plant at Spring Creek in Warren County. The co-operative said the purchases were made to attain greater plant operating efficiency as recommended by a New York State legislative committee.

The milk supply at the Spring Creek plant, which has about 100 producers, will be augmented by that of 88 D.L.C.A. members now delivering to the league's Corry plant, which will be closed.

●

Milton, Pennsylvania

Richard and James Seidel purchased the Lewisburg, Milton and Watsontown Railway Company property on Locust Street and have announced that it will be the site of a new dairy plant.

The two brothers, who operate Seidels' Dairy on Elm Street, said that the property will be cleaned up within a few months but that construction of the new plant is not expected to start for at least a year.

●

Bismark, North Dakota

Construction work on a new ice cream manufacturing plant at the Enoch Schultz Creamery, 1221 Front Ave., has been resumed and the building is expected to be completed this year.

When completed, the $30,000 plant will be capable of turning out 3,000 gallons of ice cream daily.

The building is being built by Lunn and Johnson. The foundation was poured last year. The walls are already standing and the remainder will probably be completed this year, depending on the availability of materials.

The one-story structure will measure 30 by 85 feet and will feature cream-colored glazed tile front and sides, with brick backwalls. The steel-deck roof will have a coating of baked enamel. Other features of the plant will be a 17 by 30 foot cooler and an automatic pasteurizing control unit.

●

Momence, Illinois

Plants and properties of the Momence Milk Co-operative association were placed in the hands of the Pure Milk Association of Chicago after a series of rapid-fire developments in the Eastern Illinois Federal District court at Danville.

The Pure Milk association obtained a lease of the Momence association plants at Momence and Kentland and Medaryville, Ind., after a petition was filed in the Federal court by the directors of the co-operative, asking a financial reorganization.

Attorney Donald Zeglis of Momence, representing the co-operative directors,

filed the petition before Federal Judge Walter C. Lindley.

Judge Lindley acted immediately and named E. H. Etzius of St. Louis and Harry Shapely of Watseka as joint trustees of the co-operative. Mr. Shapely is a former assistant manager of the co-operative.

As soon as they were named, the trustees filed another petition seeking approval of an immediate lease of the co-operative properties to Pure Milk association.

Judge Lindley granted the prayer of the petition.

●

Omaha, Nebraska

Robert Pettit, manager of the Royal Dairy, has been elected president of the Dairy Council of Omaha.

Robert Clapper, Roberts Dairy Company sales manager, was chosen vice-president, and John Kolb, executive secretary of the Nebraska-Iowa Milk Co-operative Association, was elected secretary and treasurer.

●

Springcreek, New York

Purchase of a Springcreek, Warren County, milk plant by the Dairymen's League Co-operative Association was announced at a monthly meeting of delegates to the Erie-Crawford County subdistrict of D. L. C. A.

Subdistrict President Adrian Sharpe of Waterford, said the co-op has bought Abbot's Milk Plant there, and already has started shipping milk from the plant to Philadelphia.

Eventually, milk now shipped from the Corry shipping station of D. L. C. A. also will be shipped from the Springcreek plant, according to Sharpe.

●

Omaha, Nebraska

Excel Dairy Sales, Inc., which supplies fruits and flavors to the ice cream industry, has changed from a partnership to a corporation. Members of the firm are E. H. Pilmaier, E. J. Gilmore and C. D. Hedman.

Ponca City, Oklahoma

Installation of all stainless steel equipment has now been completed at the Mid-West creamery company, M. F. McDaniels, general manager, announced.

Among the recent additions to the plant are two of the most modern steel positive plate coolers. A 1,000 gallon storage tank and many yards of stainless steel tubing have been installed.

From the time the milk is received from the dairymen until it is opened in the homes of the customers, it is never touched by human hands or exposed to any outside air, McDaniels stated.

New ammonia compressors and boosters and all automatic equipment has been installed in the refrigeration department of the plant to insure adequate refrigeration.

●

Cleveland, Ohio

Directors of Dairypak, Inc., 5250 Brookpark Road S. W. announce the appointment of Clarke Marion to president and general manager of the carton manufacturing concern.

Marion and his wife arrive here from San Francisco, where for the last three years he has directed west coast sales.

●

GERMANY

(Continued from Page 26)

at the rate of a pint a day, children below six years receive a pint to one and a half pints of full cream milk a day. People of more than 70 years get a half pint of skimmed milk daily.

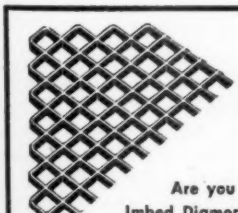
The retail price of milk is 36 pfennigs a liter, skimmed milk costs 24 pfennigs a liter (1.06 quarts). The farmer gets from 27 to 29 pfennigs a liter for the milk he delivers to the dairy companies.

Sometimes the farmers have formed dairy cooperatives producing their own butter, cheese, whey, and even powdered milk. In other places they are organized in milk supply cooperatives. The greater part of the milk, however, is being handled by dairies in the cities, some of which firms are of considerable size and importance. The Bavarian Milk Supply, Inc., of Nuernberg, for instance, was, prior to the war, and might even be today, the largest dairy company of all of Europe.

These dairies have set up collecting points where the milk is cooled to a temperature of 40 degrees F. and filled into sheet metal cans containing either 5 or 10 gallons each. (Former airplane manufacturer Willy Messerschmitt now is producing cans from aviation light metal while the 109's, Russian revamped, are being built by Czechoslovakia!) These cans are being shipped by train or truck to the dairies where the milk is handled by experts manufacturing an amazing variety of milk products, ranging from butter to tissues. The only firm shipping milk by tank cars is the Bavarian Milk supply which, at the same time, is the only firm that exports milk from one German "Land" into another. It delivers milk to Ludwigshafen in the French zone and to Frankfurt and Wiesbaden.

Although the overall picture of the dairy situation in Germany does not seem too rosy these days, Bi-Zonal dairy men are optimistic. The farmers have enough fodder since the hay crop of 1948 was amazingly good—in some parts of Germany the farmers gathered hay three times—,while the weather and in the Marshall Plan have increased their confidence. Thus far, the weather predictions promised favorable weather for the farmers in 1949, and the Marshall Plan promised some fodder import for the same year.

In the French zone, the situation is similar to that of the Bi-Zone. Very little is known about the Soviet zone of occupation except that regulations enforced with iron severity are strict, and that the results are lamentable. Leipzig, with about 650,000 inhabitants, allegedly has to get along on 1,300 gallons of milk daily.



DIAMOND FLOOR PLATES Take the Wear

Are you repairing or laying new cement floors? Imbed Diamond Floor Plates where traffic is heaviest — in aisles, receiving and loading platforms, etc. For details and prices, see your Cherry-Burrell representative.

CHERRY-BURRELL CORPORATION
General Sales and Executive Office:
427 W. Randolph Street, Chicago 6, Ill
Milk and Food Plant Equipment and Supplies
FACTORIES, WAREHOUSES, BRANCHES, OFFICES OR DISTRIBUTORS AT YOUR SERVICE IN 36 CITIES

trendmaker in a great industry

USING OUR SEPARATOR • ITEMS OF INTEREST SKIMMED FROM HERE AND THERE

Old and New

TRANSPORTATION tanks have come a long way in both appearance and capacity is clearly indicated by a comparison of the world's first stainless steel milk tank with this 1949 model. The Heil Co., Milwaukee, after much perseverence, developed a method of welding stainless steel and built the first transport in 1927 and has been producing two out of every three built ever since. The original tank was a 1000 gallon job. The modern Heil stainless steel transport shown is a frameless "trailerized" unit that weighs little more than the first tank but has a capacity of 2800 gallons. Similar units are built in capacities up to 4200 gallons. The twenty-two year period between these two tanks has been one of evolution with many transitionary styles, some with fancy skirting and "gingerbread" trimmings. But the 1949 versions follow the "form follows function" principle that is basic with all truly modern design.

•

Air Purifier

A SMALL odor absorber, or air purifier, for walk-in and reach-in coolers, has been announced by the W. B. Connor Engineering Corp. Called the "Food Saver", this device uses activated carbon as a filter to remove gases and vapors from the refrigerator air and is similar in design and operation to larger equipment widely used in air conditioning and industry.

The "Food Saver" is expected to answer two long-standing problems of users of commercial-type refrigerators: keeping the air sweet and clean and preventing flavor "transference" between foods. The development of the Food Saver, it is claimed, marks the first time that this nuisance has been approached scientifically. It correct the trouble at its source, trapping the flavor gases as they are released.

The "Food Saver" consists of two perforated metal canisters containing the activated filter medium, a small blower and motor. The blower draws the air through the canisters and recirculates it. One unit is said to sweeten the air in boxes up to 1000 cubic feet in size. Larger boxes require several units. 18 inches long it may be fastened at any place on either wall or ceiling.

Cost of around the clock operation is about the same as a small light bulb. No service or upkeep is required other than periodic reactivation of the carbon when it has absorbed its limit of odors. This will be necessary, it is estimated, about three times a year. With air purification constantly on the job simple cleaning measures are usually sufficient.

Complete information may be obtained from the W. B. Connor Engineering Corp., 114 East 32nd Street, New York 16, N. Y.

•

Box Catalog

CLOSE-UPS of SUCCESSFUL CORRUGATED BOXES is the title of an informative loose-leaf catalog in full color now available from The Hinde & Dauch Paper Company, Sandusky, Ohio. The handy spiral-type folder opens to reveal convenient slotted pockets in which are carried numerous individual "case history" sheets offering interesting examples of how corrugated boxes can be used for profitable merchandising.

Each sheet, printed in color on heavy stock for easy reference, illustrates how corrugated display packages were designed for various well-known manufacturers or retail stores in order to step up sales appeal while at the same time cutting packaging and shipping costs.

The ingenious ways in which corrugated board has been put to use for better packaging and increased sales are shown by actual illustrations and brief, informative copy.

Milk Can Marking

GEUDER, Paeschke & Frey Company, Milwaukee, Wisconsin has introduced "Breast Hoop Engraving", a brand new method of permanently marking milk cans for identification. The letters are engraved into the flat breast hoop instead of being embossed in the body.

Greater sanitation is the important advantage of this new idea. There are no indentations (caused by body embossed letters) that can collect milkstone and bacteria.

Another advantage of this method is that it eliminates a common cause of rusting. When cans are body embossed after tinning, the embossing has a tendency to crack the tin and create rust. Breast-hoop engraving eliminates this because the letters are die-pressed in before the hoop is tinned and retinned. This new method is no more expensive than regular 2-line roll embossing.

This is another forward step by Geuder, Paeschke & Frey Company in manufacturing dairy equipment which will help farmers produce cleaner milk of higher quality – one of the best ways to assure high milk consumption by consumers.

•

Purger Bulletin

HOW AIR and other non-condensables got into refrigeration systems; the adverse effect this has on operating costs and efficiency and what the Armstrong Forged Steel Purger does to prevent it is the subject of the

new 8 page Armstrong Forged Steel Purger Bulletin No. 192. Also included are: installation data with illustrations and diagrams; specifications and prices; helpful charts and tables, and a brief description of other Armstrong refrigeration products. Armstrong Machine Works, Three Rivers, Michigan.

●

Dairy Envelope

THE Mulvey Dairy Envelope is designed to save time and money for milk distributors who bill their customers on a monthly basis. It provides an inexpensive method of getting bills to customers in readable condition.

The envelopes are made of kraft paper stock, three by five inches in size, with a large round flap. At one corner of the envelope, a rubber band is looped

through a punched hole. There is space on the face of the envelope for the customer's name and address. The dairy's name and an advertising message can also be printed on the envelope if desired.

The procedure for using the Mulvey Dairy envelope is as follows: The customers' statements are made up in the office, inserted in the addressed Mulvey envelopes, and sorted according to delivery schedule for each route. The envelopes for each route are then placed in a special numbered box. The routeman takes the box with him on his truck, and as he makes a delivery at the customer's door, he slips the rubber band on the Mulvey envelope over one of the filled bottles. The rubber band holds tightly enough to prevent the bill from blowing away. The heavy kraft paper envelope prevents average moisture from blurring the statement. It is thus delivered in a clean, dry and readable condition. Postage expense is saved. Some customers slip their check due in the Mulvey envelope and place it over the neck of an empty bottle so the routeman can pick it up on his next trip.

The Mulvey Dairy Envelope is available in stock print or special print designs. The cost of the stock design is less than a cent apiece in ten thousand lots. Complete information, sample and prices may be obtained from Cherry-Burrell representatives or Branch Offices, or by writng F. H. Harwood, Jr., Cherry-Burrell Corporation, 427 W. Randolph St., Chicago 6, Illinois.

●

Test Benches

TEST BENCHES, for use at test stations in dairies, bulk stations and cheese factories can now be had in any length and in a variety of designs, by joining prefabricated steel units recently developed and now available from stock.

Eighteen different all-steel units are available, including drawers, cupboards, sinks, tables, storage cases, etc. They are designed to be joined easily one to another to form test benches either 30″ or 36″ high. Units are two, three, four or five feet in length and make use of the newly developed plastic-impregnated stone called "Kemrock" for bench working surfaces. "Kemrock" is tough, smooth, black and extremely resistant to ovens and chemically corrosive materials.

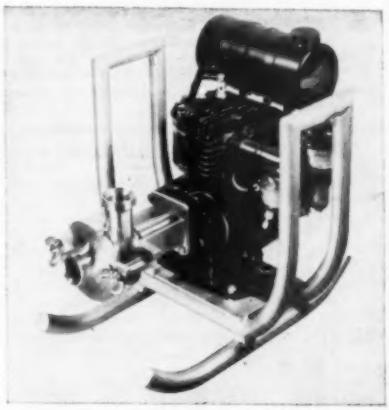
The new line, called "Unitized" test benches, answers a need for heavy steel furniture upon which to run specific gravity, bacteria count, weighing, sampling, total solids, fats, phosphatase, or other tests at convenient in-the-plant areas.

An illustrated catalog giving full details, dimensions, and prices can be had from the manufacturer, Fisher Scientific Co., 714 Forbes St., Pittsburgh (19), Pa.

●

Centrifugal Pump

THE TRI-CLOVER Machine Company of Kenosha, Wisconsin, has recently announced the development of a portable "sanitary type" Centrifugal Pump. This unit has been designed to combine the sanitary features



of a stainless steel pump with the portability of a small gasoline engine.

As a result, this new unit is proving to be desirable in rural milk plants according to the manufacturer. Any temporary power shortage that results in the failure of electrically operated pumps can be relieved by the use of this gasoline operated pump.

The portable nature of the unit also makes usable by dairy farmers who operate "holding tanks" and the truckers who service them. The high capacity of this Centrifugal Pump allows it to transfer milk from tank to truck within a short time.

When Shipping Poultry & Dairy Products to New York

You will find the collection of Drafts will be greatly facilitated if they are drawn through

THE MARINE MIDLAND TRUST CO. of New York

Chambers Street Office:
130 CHAMBERS STREET

Better **DRY MILK AT LOWER COST**

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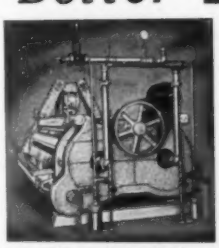

DRY MILK MACHINES
Built in Five Sizes

The Patented, glass-smooth, "20-year cylinders" give years and years of maximum production of a superior dry milk at the lowest possible cost.

Many other exclusive features insure long life with low steam and power costs. Complete details upon request.

OVERTON MACHINE COMPANY
DOWAGIAC MICHIGAN

WANTS and FOR SALES

Classified Advertising Rates

(Remittance MUST Accompany Order)

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50 word maximum. 50c — 2c for each additional word.

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Boldface type: 10c per word ($2.00 minimum)
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Keyed Address

25c additional in the United States.
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When replying to any of the following keyed advertisements please address replies to:

BOX NO..... AMERICAN MILK REVIEW

92 WARREN STREET NEW YORK 7, N. Y.

(The deadline for Classified Advertising is the 10th of the month preceding publication.)

No classified advertising will be accepted to run with borders or special spacing. All such advertisements are considered "Display" advertising and will be billed at regular display advertising rates. (Rates and mechanical requirements on request.)

FOR SALE — EQUIPMENT

FOR SALE — At our Warehouse and Shop we have a good selection of Pasteurizers, Coolers, Bottle Washers, Bottle Fillers, Can Washers, Storage Tanks, Heaters, Separators, Weigh Cans, Filters, Ice Cream Freezers, Homogenizers, Vacuum Pans, Pumps, etc. Save money by considering good Used and Reconditioned Equipment. Write or wire your requirements. Lester Kehoe Machinery Corporation, 1 East 42nd St., New York 17, N. Y., Telephone MUrray Hill 2-4616. 5-M

REBUILT — Pasteurizers, Milk Coolers, Bottle Fillers, Ice Machines, Plate Coolers and Heaters, Homogenizers and Bottle Washers. Send us your requirements. Ohio Creamery Supply Company, 701 Woodland Ave., Cleveland 15, Ohio. 5-M-t.f.

FOR SALE — Milk Plant Equipment to completely furnish small milk plant. All reconditioned and for very low prices. ROHA'S DAIRY, 580 North Street, Meadville, Pa. 7-M

FOR SALE — No. 14 Cemac bottle filler, stainless steel throughout, perfect running condition, 96 quarts per minute. Bargain, N. Y. C. plant. Reply Box 200, care this publication. 8-M

FOR SALE — Heil, Model 4 "D", Soaker type bottle washer. Capacity 38 per minute, automatic discharge. Washes ½ pts., pts., and qts. 3 H. P. motor, 220 volts, 60 cycle, 3 phase. In good condition. Will accept fair offer. Elmhurst Cloverleaf Dairy, Addison, Illinois. 8-M

FOR SALE — Mojonnier stainless steel, 12 spout Vacuum Filler and Capper, reconditioned and guaranteed; Model 90RH for one-half pints, pints, quarts, and one-half gallons. Will handle up to 90 bottles per minute. Complete with vacuum pump; inlet and outlet conveyor with stands and stainless steel covers; and stainless steel accumulating table with separate drive. PRICED LOW. Also 200, 300 and 500 gallon stainless steel Pasteurizers, Cheese Vats, Sanitary Fittings and Sanitary Pumps. The Filter Paper Company, 2460 S. Michigan Ave., Chicago 16, Ill. 8-M

FOR SALE — 400 gallon cheese vat with 16 gauge stainless steel inner liner and new steel outer jacket. Inner liner has been used short time. Price $230.00 F.O.B. St. Louis. N. C. Angevine 4433 S. Grand, St. Louis 11, Mo. 8-M

FOR SALE — New 17,000 lb. cheese vat. 16 gauge inner liner and ¼" tempered aluminum outer jacket. Never used. Will sell for 80% of original cost, $1200.00, F.O.B. Springfield, Mo. N. C. Angevine, 4433 S. Grand, St. Louis, Mo. 8-M

FOR SALE — EQUIPMENT

FOR SALE — One R. G. Wright 4-wide soaker type bottle washer. Washes all size bottles, used 18 months. One Specialty Brass six valve bottle filler and capper, 51 and 56 mm., used 14 months. One Econ-o-seal bottle capping machine, puts on an aluminum cap, used 11 months. One 1½" stainless steel milk pump, one 1" stainless milk pump, one brine pump, one double wash sink, one two horse Kelvinator compressor, 10 horse gas burner boiler, small amount stainless steel 1½" pipe and fittings. One 100 gallon pasteurizer, one recording clock. Clarence Farms Dairy, Clarence, New York. 8-M

FOR SALE — 8 horse flueless boiler, built 1944. 3 section Girton bottle washer with pumps. 2½ horse compressors and fan for milk cooler. L. Gill, Clyde, New York. 8-M

FOR SALE — Lathrop-Paulson 16 C.P.M. Straightaway Washer. This machine 8 years old and in first class condition. Can be seen in operation. Ideal for shipping cans at reduced speeds. Albany vicinity. Reply Box 207, care this publication 8-M

FOR SALE — Lathrop-Paulson 14 C.P.M. Can Washer; L-P Stainless Steel 1000 lb. round combination dump and weigh can (Western or Eastern dump); L-P 1500 lb. Receiving Vat-Stainless Steel. Above equipment 7 years old and fair to good condition. Located upper New York. Write for prices. Box 208, care this publication. 8-M

FOR SALE—Pfaudler milk bottler, filler and capper with 51mm capper (new) 5 valve filler, excellent shape. Write Nappanee Dairy, Nappanee, Indiana for price. 8-M

SPECIAL OFFERINGS — 400 Gallon Pfaudler Horizontal Stainless Steel Insulated Tanks with agitators; 1,500 gallon Pfaudler Stainless Steel Storage Tank with direct expansion coil; 2,000 and 3,000 gallon Pfaudler Glass Lined Storage Tanks for by-products only; 100 to 300 gallon Stainless Steel Pasteurizers; Rice & Adams Straitaway Can Washer, 6 to 8 c.p.m. Lester Kehoe Machinery Corporation, One East 42nd Street, New York 17, N. Y.

FOR SALE — MISCELLANEOUS

COAL: Non-clinkering George's Creek Big Vein Low Volatile. This is that better coal. Carload Coal Corp., 55 West 42nd St., New York City 18. 7-M

FOR SALE—Orange-Ade Base made from fresh oranges. Nothing to add but water, $1.35 per No. 10 tin. Bradway Chocolate Company, New Castle, Indiana. 5-M-t.f.

FOR SALE — MISCELLANEOUS

FOR SALE — Truck lettering and trade mark decals, made for your truck and store advertising. Easy to apply; uniform, distinctive, economical for small or large needs. Write for catalog. Mathews Co., 827 So. Harvey, Oak Park, Illinois. 5-M-5

FOR SALE — 112-2/12 gross square 17¾ ounce weight quart milk bottles, 8⅝" high with 56 mm. Common Sense Finish, No. 2 standard size cap seats with red color lettering on one panel of the bottles. 5-2/12 gross tall square 8-ounce weight half pint milk bottles, 5-7/16" high, 56 mm. Common Sense Finish, No. 2 standard size capseats with same red color lettering. All new bottles in original packing case. $5.00 per gross F.O.B. Lewisburg, W. Va. Reply to: G. Gravely, Greenbrier Dairy Products Company, Box 351, Lewisburg, W. Va. 8-M

FOR SALE — Chocolate Powder and Chocolate Syrup for making Non-Settling Chocolate Milk. Your trial order will receive our prompt attention. Bradway Chocolate Company, New Castle, Indiana. 5-M-t.f.

SPECIAL NOTICE

MISS or MR. BOOKKEEPER — Do You Need Help in Preparing Weekly Bills, Monthly Statements, Farmers Checks, All Monthly Reports? Experienced Auditors Write for details. Box 155, care this publication. 7-E-B-8-M

REPAIR SERVICE

THERMOMETERS — We repair Mercurial Indicating Thermometers, dial thermometers and recording thermometers of all makes. Instruments are reconditioned like new. Satisfaction guaranteed. For economical savings ship your thermometers to Nurnberg Thermometer Co., 124 Livingston St., Brooklyn, New York. 5-M-11

POSITION WANTED

Available — 30 year old married man for responsible position with progressive firm. B. S. degree in dairy industry and bacteriology. Practical experience ranging from can washer to plant superintendent in both market milk and ice cream. Can fill any position. Will go anywhere. Box 202, care this publication. 8-M

Position Wanted — Plant manager or working foreman. 17 Years experience in Milk and Ice Cream. High School education. Two six month courses in milk and ice cream. Age 36, married. Best of references. Reply Box 203, care this publication. 8-M

HELP WANTED

HELP WANTED — We want a young man to be plant superintendent who knows quality, production and neatness. We have Ice Cream and Milk Plant. He must be willing to work. We want results not promises. Must be sober. State age, salary expected and references. Results will bring the right salary. Reply Box 201, care this publication. 8-M

Experienced Plant Man who can take charge of fluid milk, ice cream, and by-products operations. Good opportunity for right man. Dairy school background preferred. Give particulars in first letter. Box 206, care this publication. 8-M

BUSINESS OPPORTUNITY

FOR SALE — Old established Retail Dairy Business. Choce class of trade in Northern New Jersey. Trucks and Equipment complete with or without real estate. Opportunity for right young man. Reply box 204, care this publication. 8-M

FOR SALE — Pasteurized milk bottling and ice cream plant in Mid-West state. Gross sales last year over $85,000. Four milk routes with around 1,400 quarts daily. Nearly new equipment with modern apartment above plant. Reason for selling—ill health. Reply Box 205, care this publication. 8-M

FOR SALE — Milk and Ice Cream wholesale and retail dairy with retail store in Southern Kansas town of 8,000. Sell with or without building. First time offered for sale. Selling because of health. Box 211, care this publication. 8-M

SUPPLIES WANTED

WANTED an all year 'round supply by contract of skim milk to be manufactured into cottage cheese on your premises. Can also use some whole milk. We supply all equipment. Location within 200 miles of Philadelphia. Reply, Box 210, care this publication. 8-M

WANTED — EQUIPMENT

WANTED—Boilers, high or low pressure, used. Any size or type. Also used smoke stacks, pumps, motors, pipe, valves and fittings. Give full information and prices in first letter. Otto Biefeld Company, Watertown, Wisconsin. 8-M

PLANT WANTED

Wanted to buy or rent creamery or milk plant in Delaware, Maryland, or Virginia States. Reply, Box 209, care this publication. 8-M

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DISI

(Continued from Page 8)

The Area Development Committee fosters intensive fieldwork, so far accomplished notably in the West Indies where in Cuba a Dairy Council has been established, in Jamaica foundations for a similar activity partly laid, in Puerto Rico educational measures launched and in the Virgin Islands conditions favorable to a first pasteurizing plant—now operating—brought about.

I do not have space to tell of all the committees here or of some of the other activities that mark the Society's present work.

In my study trips in European countries, I have met dairy experts who could not understand why, with its headquarters in America, an international dairy organization should now begin work when an older one has been in existence since the beginning of this century: the International Dairy Federation, with headquarters in Brussels.

The Federation is a well established organization of recognized reputation with a pronounced inclination to give to its activities a scientific character. Its structure is quite different from DISI's; it is a body of representative national scientific or technical organizations and does not provide memberships for individuals or firms. Its influence has long been responsible for the holding of scientific International Dairy Congresses at intervals of a few years. My last information is that it has never had a U. S. association affiliated in its work.

Dairy Industries Society, International—DISI—is a materializing of the ideas and methods of active men in dairying and the dairy industries and in education and administration and in technology on the applied level, who are, although interested in pure science as the foundation of progress, also concerned in the forwarding of the practical uses of science.

Both organizations fill a needed place. I have assured my dairy friends in Europe that there is no inherent competitiveness with the "old" Federation in the "new" Society but that the activities of the two can very suitably become complementary. They are already that, in practical effect.

In the period of the International Dairy Congress to be held in Stockholm this August DISI directors and members there from three continents will hold a regional Society meeting. This will strengthen the contacts among DISI members whom distance normally separates. In my belief it may become an occasion also for a demonstrating that the "old" and "new," each to its pattern, have much constructive collaborative work to do.

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OF EVENTS TO COME

World Dairy Congress—Twelfth Meeting. Stockholm, Sweden, August 15-19, 1949. Waldemar Ljung, Postbox 642, Stockholm, Sweden, Secretary.

Wisconsin Milk Sanitarians Association—Annual convention to be held at Northland Hotel, Green Bay, Wis., Wednesday, Sept. 7. L. W. Brown, Madison, secretary-treasurer.

Cornell University—Annual dairy industry conference will be held September 8 and 9 at Ithaca, N. Y. Prof. F. V. Kosikowsky, Department of Dairy Industry, Cornell University, Ithaca, N. Y.

Iowa Milk Dealers Association, Inc.—Annual convention will be held at the Hotel Fort Des Moines, Des Moines, Iowa, September 14 to 16, 1949. Secretary, John H. Brockway, 906 Walnut Bldg., Des Moines 9, Iowa.

New York State Association of Milk Sanitarians—Annual conference will be held September 19 to 21 at the Hotel Syracuse, Syracuse, N. Y. Secretary, C. S. Leete, New York State Department of Health, 18 Dove St., Albany 6, N. Y.

National Dairy Cattle Congress—Thirty-seventh annual exposition, including exhibits of dairy products and equipment, will be held at Waterloo, Iowa, October 3 through October 9. Secretary, E. S. Estel, National Dairy Cattle Congress, Waterloo, Iowa.

International Dairy Exposition, Inc. — First annual International Dairy Exposition, including exhibits of dairy cattle, dairy equipment, and dairy product processors will be held October 8 to 15, 1949, at the State Fair Ground, Indianapolis, Ind. Secretary, Robert D. Hammer, Room 633, 130 E. Washington St., Indianapolis, Ind.

Wisconsin Buttermakers and Managers Association—Annual convention to be held at Chippewa Falls, Wis., October 11 and 12. Elmer Radtke, Reedsburg, Wis., executive secretary.

International Association of Milk and Food Sanitarians, Inc.—Thirty-sixth annual convention will be held at the Deschler-Wallick Hotel, Columbus, Ohio, October 20 to 22. Secretary, George A. West, 44 Marshall St., Rochester 2, N. Y.

Milk Industry Foundation—Annual convention will be held at the Ambassador Hotel, Los Angeles, Calif., October 24 to 26. Executive director, B. F. Castle, 1001 Fifteenth St. N. W., Washington 5, D. C.

American Public Health Association—Seventy-seventh annual meeting will be held at the Hotels Statler and New Yorker, New York City, October 24-28. Executive secretary, Dr. Reginald M. Atwater, 1790 Broadway, New York City.

New York State Milk Distributors, Inc.—Annual convention will be held at the Mark Twain Hotel, Elmira, N. Y., November 9 and 10. Executive secretary, J. Russel Fox, 74 Chapel St., Albany 7, N. Y.

Dairy Technology Alumni, University of Illinois—Second reunion will be held November 19 at the dairy building, University of Illinois. Executive secretary, Dr. P. H. Tracy, Dairy Manufacturers Bldg., University of Illinois, Urbana.

Dairy Industries Society, International—Third annual meeting has been scheduled to be held in Washington, D. C., during the last week in November. Chairman, Board of Directors, Robert Rosenbaum, 1426 G. St. N.W., Washington, D. C.

Wisconsin Milk Dealers' Association — Annual convention will be held at the Schroeder Hotel in Milwaukee, December 6-8. Secretary, Harry Klueter, 1 W. Main St., Madison, Wis.

Illinois Dairy Products Association — Annual convention will be held at the Morrison Hotel, Chicago, Ill., December 12 to 14, 1949. Secretary, M. G. Van Buskirk, 309 W. Jackson Blvd., Chicago 6, Ill.

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El Paso, Texas

Price's Creameries has purchased a quarter block of land, south of the Alpine High School, from T. A. Beard. The company will build a plant there.

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HOLLAND

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The milk produced in the Dutch farms goes to 600 milk plants for processing and manufacturing into higher quality products. Of these plants 462 are cooperatively owned. Some of the milk processing plants are only creameries, others manufacture cheese, some are equipped to produce other commodities too such as condensed milk, milk powder, whey powder, casein, etc. The milk powder plants are operated by both the spray and roller system. Seven cooperative marketing associations handle the selling of dairy products. They are united in a central organization: the Bond van Cooperatieve Zuivelverkoopverenigingen (B.C.Z.V.), the Cooperative Dairy Sales Union. Practically every dairy cooperative is a member of the provincial dairy cooperative organization. The most important of these provincial cooperatives is the "FRICO", the Cooperative of the Dairy Cooperatives in the Province of Friesland.

The excellent results achieved by the Dutch farmers are due to the system of cooperation. The highly individualistic Dutch farmers soon understood the necessity for cooperation, and since their first joint action in 1877, the cooperative movement of farmers expanded into every field of agriculture and horticulture. The first cooperative dairy plant was established at Warga, Friesland province, in 1886. Presently, 75% of all milk produced in the country is processed cooperatively. More than 80% of the total butter and cheese production is supplied by the cooperative dairy plants. The old times are over in which the farmer when taking a wife, was not so much interested in her good looks or amiable disposition as in her qualifications as a "keezer", a cheese maker. The production of "farm cheese" is declining in quantity and importance. The total quantity of farm cheese sold was 31,000 tons in 1937; 30,000 tons in 1938; 27,000 tons in 1939; 11,000 tons in 1947; and 15,000 tons in 1948. The cheese production is under strict government supervision. Every single Dutch cheese must be provided with the official government stamp. This mark of authenticity not only guarantees that the cheese is made from unadulterated milk obtained from Dutch cows, but also that the dry substance in it contains the percentage of fat indicated on the mark.

The Dutch dairy farmer gladly goes to school. The highest academic grades for training dairymen are the Agricultural University at Wageningen and the State Dairy College at Bolsward; there is a Training Institute for Cheese Makers at Hoorn, in connection with the State Dairy Research Institute. In 1946 there were in the Netherlands 2 secondary agricultural schools, 38 agricultural and horticultural winterschools, 159 primary agricultural and horticultural schools, 37 special vocational or technical schools, and 1,043 general agricultural and horticultural winter-courses. Besides that an extension work is carried out by the various farmers' organizations and cooperative associations.

The Dutch dairy machinery industry contains 22 larger and smaller plants with a total employees of 1,200. These plants are using annually about 1,000 metric tons of steel, and iron. The "Officieel Orgaan", the Dutch dairy weekly, published in the spring of that year a very interesting article in relation to the Dutch dairy machinery industry. The Dutch dairy farmers and their cooperatives protest against the "closed door" policy of the government, inspired by the association of the dairy machinery manufacturers, in consequence of which no foreign dairy machinery and equipment should be imported to Holland. The farmers affirm that such a policy is against the very interests of the dairy industry and the dairy supply industry as well. The Dutch dairy machinery manufacturers, the farmers state, are not able to supply them with badly needed equipment in sufficient quantity and in short term of delivery.

How SOLVAY Cleanser No. 600 Makes Dairy Cleaning EASIER—MORE EFFECTIVE

TRADE-MARK REG. U.S. PAT. OFF.

YOU WILL AGREE that cleaning jobs in the dairy are specialized jobs which call for a specialized cleanser. SOLVAY CLEANSER NO. 600 was designed specifically for difficult dairy cleaning operations . . . such as you encounter every day in your work as a dairyman.

IT WORKS FASTER! The moment you start the cleaning job, the exclusive combination of wetting agent and other properties goes right to work. It penetrates the dirt; gets under it; loosens it; emulsifies it—lifts it off the surface! It wets the soil; breaks it into minute particles; suspends it so it can be easily carried off in the rinsing operation!

IT MAKES CLEANING EASIER! SOLVAY CLEANSER NO. 600 is fortified with multiple action to attack stubborn, sticky soils from the top as well as from underneath. Special ingredients give this power-packed cleanser unusual strength . . . help lessen your cleaning job. It's safe, too—"600" will not harmfully affect the skin or the surface being cleaned. Use it on painted surfaces, nickel, tin, chrome, tiling, glassware, or practically anything in the dairy!

THE RESULT . . . equipment is left sweet, bacteria count extremely low—the two most important factors in dairy cleansing. SOLVAY CLEANSER NO. 600 is available for immediate delivery in convenient packages to suit your particular needs—5, 115 and 250-pound packages. Order today from the nearest SOLVAY office.

More Thorough Cleaning

Faster Action

Less Labor

Greater Safety

Added Versatility

Less Cost

U. S. Patent 2404299

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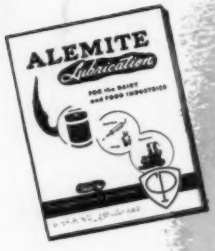

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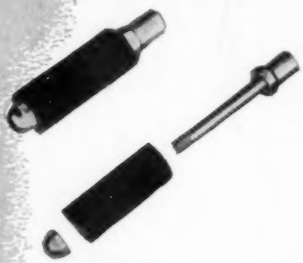

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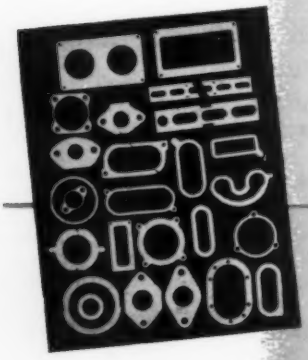

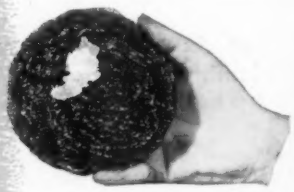

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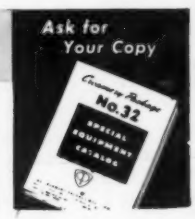
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